ENGINEERED PERFORMANCE STANDARDS

BOOK NUMBER - 12

SHEETMETAL, STRUCTURAL WELDING

TABLE OF CONTENTS **BOOK 12**

		cutting sheet rock	
250	Supplemental Machine Task	PITTSBURG LOCK SEAM machine, per set-up/per piece/per ft.	88
260	Supplemental Machine Task	USE HAND PUNCH -2 lb., 15 lb., and stationary	89
270	Supplemental Machine Task	SHEAR EXTRUDED STRUCTURAL SHAPES on Iron Worker	92
280	Supplemental Machine Task	SHEAR SHEETMETAL plate & sheet stock	97
290	Supplemental Machine Task	SOLDER assemble & solder parts using flame or electrically heated iron	99
300	Supplemental Machine Task	SPOTWELD assemble and spotweld	102

EPS SUPPLEMENTAL DATA
CRAFT DELAY ALLOWANCE, JOB PREPARATION

CRAFT	JOB PREP	CRAFT DELAY ALLOW. SINGLE	MULTI
BOILER WORK	.4	23	33
CARPENTRY - GENERAL	.3	15	20
CARPENTRY - ROOFING	.6	20	25
COOLING/VENT/REFER.	.3	15	18
ELECTRICAL & ELECTRONIC	.3	16	20
HAZARDOUS WORK (ADD TO JP)	.2	--	--
HEATING	.3	17	21
JANITORIAL	.3	11	13
MACHINE SHOP	.3	23	24
MACHINE REPAIR	.4	28	36
MASONRY - GENERAL	.4	15	20
- W/ PURCH. CONC.	.4	19	22
MOVING AND RIGGING	.3	28	40
PAINT - GENERAL	.2	16	17
- SPRAY	.2	17	19
PEST CONTROL	.3	14	17
PIPEFITTING - INTERIOR	.3	15	20
- EXTERIOR	.3	18	25
PLUMBING - INTERIOR	.3	17	20
- EXTERIOR	.3	15	20
ROADS & GRNDS - GENERAL	.3	16	20
- LABORERS	.3	15	20
SHEETMETAL	.3	15	20
STRUC IRON & WELD - FIELD	.3	17	20
- SHOP	.6	17	22
TRACKAGE	.4	--	22
WHARFBUILDING	.5	24	32

CAGE...Fabricate /Remove and or Install .....- 3'x 8' or 4'x 8' Expanded/wire Cage Sections-(typical installations : security cage for tools / material kits)

TASK TIME STANDARDS LISTING

LAT074	fabricate	SLIDING DOOR	expanded metal double panel
LAT076	remove	GATE SECTION	single swing type
LAT075	remove	SECTION Reg	regular or corner section not a gate or section connected to a wall
LAT083	install	ANGLE BRACES	for security cage sections used in long walls to stabilize sections
LAT077	install	SECTION Reg	regular or corner section not a gate or section connected to a wall
LAT078	install	SECTION Wall	wall section tied to concrete wall
LAT084	install	SLIDING DOOR	attached to existing cage
LAT082	install	METAL GATE	"single swing" attached to structure

.

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 074 Fabricate double panel (expanded metal) security cage sliding doors.--4ft x8ft panel----(includes: Layout , shear, tack, and weld.) normally galv. material , painting is not included. INCLUDES: layout for sliding doors, shear expanded metal , 32 tack welds & square up rails, weld all total 48 inches. DOES NOT INCLUDE PAINTING

000.92758 hours per sliding doors to fabricate

LAT 076 Remove expanded metal gates "single swing" type. INCLUDES: remove bolts from hinges & lock, remove lock, remove gate & aside, setup & move ascend descend ladder, material handling.

000.45568 hours per metal guard gates to install

LAT 075 Remove 8ft x 3ft expanded metal sections. INCLUDES: remove bolts & nuts from section & supports 12ea., remove 2 sections & aside, remove 4 supports, setup & move ascend descend ladder, material handling.

000.28588 hours per metal guard sections to remove

LAT 083 Install angle braces for expanded metal enclosures.
INCLUDES: mark drilling locations , install 2 anchors & screws, position angle brace, drill holes in section, install 4 bolts per brace.

000.02772 hours per JOB SETUP TIME

000.20349 hours per metal guard braces to install

LAT 077 Install 8ft x 3ft expanded metal sections, includes corner assemblies and installing anchors.
INCLUDES: layout area for supports and anchors, install 4 expansion anchors & screws, position supports, drill holes to cut , shim supports, install bolts in sections and shells, setup & move ascend descend ladder, material handling.

000.23797 hours per JOB SETUP TIME

000.58660 hours per metal guard sections to install

LAT 078 Install 8ft x 3ft expanded metal sections, tied to concrete walls, (end sections).
INCLUDES: install expanded metal panels, drill holes in end bracket, install 3 expansion anchors & screws.

000.23797 hours per JOB SETUP TIME

000.82336 hours per metal guard end sections to install

LAT 084 Remove 2 sections and install 1 double panel sliding door in existing expanded metal partition or enclosure.
INCLUDES: remove 2 sections, layout for door, position transom sections, drill holes in sect.& supports, position head & track position track brackets,stops,install bolts in sections&support , hang sliding door, setup & move ascend descend, matl.handling

000.02772 hours per JOB SETUP TIME

001.88590 hours per metal guard sliding door sets to be replace

LAT 082 Install expanded metal gates, "single swing" type, to structure in place.
INCLUDES: layout for gate, position gate, lock to gate, setup & move ascend descend ladder, drill holes & install bolts, material handling.

000.02772 hours per JOB SETUP TIME

000.77864 hours per metal guard gates to install

fabricate- RECTANGULAR DUCT COMPONENTS
All layout , shear & return material to storage, brake, align tabs, hand snip, pittsburg seam , assemble pieces, close seams, and material handling are included in task.

TASK TIME STANDARDS LISTING

LAT032	AIR DEFLECTOR		16"x 32	
LAT036	"S" SLIP	ON HAND BRAKE	3 ft long each	24ga
LAT035	"S" SLIP	ON MACHINE	3 ft long each	24ga
LAT034	COVER PLATE	for duct sides	any size	
LAT038	DRIVE LOCK	ON HAND BRAKE	3 ft long each	24ga
LAT037	DRIVE LOCK	ON MACHINE	3 ft long each	24ga
LAT010	ELBOW	with turning vanes	6"x12" layout from templet	
LAT011	ELBOW	with turning vanes	18"x24" layout from templet	24ga
LAT012	ELBOW & NO turning vanes		14"x20" layout from templet	
LAT040	HANGER L type	bar stock		11ga
LAT022	OFFSET includes develop templet		15.5"x18"	24ga
LAT024	OFFSET -45deg.revs.12"radius		14"x20" layout from templet	
LAT018	REDUCER & OFFSET		14"x20"to 8"x12"-30" long	
LAT019	REDUCER		14"x20"to 8"x12"-4' long	
LAT001	SECTION	4 ft Long	8"x14" -	24-26ga
LAT002	SECTION	8 ft Long	8"x14"	24-26ga
LAT003	SECTION	4 ft Long	14"x20"	24-26ga
LAT004	SECTION	8 ft Long	14"x20"	24-26ga
LAT005	SECTION	4 ft Long	32"x40"	22ga
LAT006	SECTION	8 ft Long	32"x40"	22ga
LAT029	TEE		14"x20"trunk& branches10"x14 layout from templet	
LAT030	TEE		20"x36"trunk&branches18"x20" layout from templet	
LAT015	TRANSITION-rect/rnd-	3 ft Long	14"x20"to 10"Dia. layout from templet	
LAT017	TRANSITION-rect/rnd-	3 ft Long	24"x24"to 18"Dia. seam and solder seams	
LAT016	TRANSITION-rect/rnd-	3 ft Long	24"x24"to 18"Dia. layout from templet	
LAT033	TURNING VANES rectangular fabricate&install		14"x20"in 90deg.elbow	

LAT 032 Fabricate air deflector, 32" x 16" for air conditioners.
INCLUDES: shear large sheet, form pittsburg lock seam, punch hole mounting, bend for forming, assemble & close lock seam, an material handling.

000.10523 hours per JOB SETUP TIME

000.39004 hours per deflectors to fabricate

LAT 036 Fabricate "S" slip joints with stiffener 24 gauge. Use hand brake to form joints.
INCLUDES: shear pieces, bend pieces, material handling.

000.06499 hours per slip joints to fabricate

LAT 035 Fabricate "S" slip-joint with stiffener, 24 gauge. Use "S" Lock machine to roll form.
(Based on average "s" slip-joint is 3ftlong & of 8 made per job
INCLUDES: shear pieces, roll form slip joint , material handling.

000.01335 hours per slip-joints to fabricate

LAT 034 Fabricate cover plate for rectangular duct sides.

000.48622 hours per cover plates

LAT 038 Fabricate drive lock for rectangular duct.
INCLUDES: shear pieces, bend pieces, insert and remove crush stop strip in drive, material handling.

000.05857 hours per drivelocks to fabricate

LAT 037 Fabricate drive lock seam for rectangular duct, 24 gauge.
Use drive "S" lock machine to roll form.
INCLUDES: shear pieces, form drive locks, material handling.

000.01216 hours per drivelocks to fabricate

LAT 010 Fabricate rectangular elbows with turning vanes, 6" x 12" openings, 20 gauge. Use Pittsburgh lock seams.
INCLUDES: layout elbow, shear pieces, layout out side with templet & shear with tin snips, form lock seam, bend top & bottom sheets, drive locks & vanes, roll turning vanes, assembl & close lock seam, drill rivet assy.and material handling.

000.76158 hours per JOB SETUP TIME

001.09889 hours per rectangular elbows to fabricate

LAT 011 **Fabricate rectangular elbows with turning vanes, 24" x 18" openings, 24 gauge. Use Pittsburgh lock seams.**
INCLUDES: layout elbow, shear pieces, layout with templet shear with snips, form pittsburg lock, bend elbow throat, turning vanes and tabs.

000.76158 hours per JOB SETUP TIME

001.76934 hours per rectangular elbows to fabricate

LAT 012 **Fabricate rectangular curved elbows, 20" x 14" openings, 12" inside radius, 24 gauge. Use Pittsburgh lock seam.**
INCLUDES: layout elbow, shear blanks, mark from templet, cut radius, notch for corners, bend for slip joints, form pittsburg lock seam, roll pieces, turn lock seams, close lock seams, & material handling.

000.60316 hours per JOB SETUP TIME

001.21404 hours per curved elbows to fabricate

LAT 040 **Fabricate rectangular duct hanger from 11 gauge bar stock.**
INCLUDES: shear flat bar, punch 3 holes in hanger, bend hangers, material handling.

000.09813 hours per JOB SETUP TIME

000.06502 hours per hangers to fabricate

LAT 022 **Fabricate rectangular offsets, 18" x 15 1/2" openings, 24 gauge, Pittsburgh lock seam.**
INCLUDES: layout offset templet, shear pieces, layout from templet & hand shear, make bends tabs & sides, form lock seams position pieces, assemble & close lock seams & material handling.

002.07323 hours per JOB SETUP TIME

002.21340 hours per offsets to fabricate

LAT 024 **Fabricate reverse 45 degree curved offset, 12" inside radius, 20" x 14" openings, 24 gauge. Use Pittsburgh lock seam.**
INCLUDES: layout offset, shear pieces, layout from templet & hand cut, roll pieces, form lock seam, turn edges for lock seam position pieces, assemble & close lock seams, and material handling.

000.55090 hours per JOB SETUP TIME

000.98477 hours per offsets to fabricate

LAT 018 **Fabricate offset rectangular reducers 20" x 14" to 12" x 8" x 30", 24 gauge. Use Pittsburgh lock seam.**
INCLUDES: layout reducer templet, shear pieces, layout from templet & hand shear, form lock seams, bend to form & stiffen sides & to form drive, position pieces, assemble & close lock seam, and material handling.

001.11234 hours per JOB SETUP TIME

001.15501 hours per offset reducers to fabricate

LAT 019 **Fabricate straight rectangular reducers, 20" x 14" to 12" x 8" x 48", 24 gauge. Use Pittsburgh lock seam.**
INCLUDES: layout reducer templet, shear pieces, layout from templet & hand shear, form lock seams, bend to form & stiffen sides & to form drive lock tabs, position assemble & close lock seams, and material handling.

001.11234 hours per JOB SETUP TIME

001.35488 hours per reducers to fabricate

LAT 001 **Fabricate four foot sections of rectangular duct, 24-26 gauge, 14" x 8". Use Pittsburgh lock seam.**
INCLUDES : layout , shear, layout from templet, pittsburg lock seam, bend and form joint tabs, assemble and close seams, and material handling.

000.57072 hours per JOB SETUP TIME

000.60907 hours per four foot duct sections to fabricate

LAT 002 **Fabricate eight foot sections of rectangular duct, 24-26 gauge, 14" x 8". Use Pittsburgh lock seams.**
INCLUDES: simple layout, shear pieces, layout from templet & shear with hand snips, form pittsburg lock seam, bend to form & stiffen & form joint tabs, assemble & close seams, material handling.

000.56129 hours per JOB SETUP TIME

000.70196 hours per 8ft duct sections to fabricate

LAT 003 **Fabricate four foot sections of rectangular duct, 24-26 gauge, 20" x 14". Use Pittsburgh lock seam.**
INCLUDES: simple layout, shear pieces, layout from templet & shear with hand snips, form pittsburg lock seam, bend to form & stiffen sides & form joint tabs, assemble & close pittsburg seam, material handling.

000.53815 hours per JOB SETUP TIME

000.60907 hours per 4ft duct sections to fabricate

LAT 004 **Fabricate eight foot sections of rectangular duct, 24-26 gauge, 20" x 14". Use Pittsburgh lock seam.**
INCLUDES: simple layout, shear pieces, layout from templet & shear with handsnips, form pittsburg lock seam, bend form & stiffen sides & form joint tabs, assemble & close pittsburg seams, material handling.

000.52872 hours per JOB SETUP TIME

000.95642 hours per 8ft duct sections to fabricate

LAT 005 **Fabricate four foot sections of rectangular duct, 22 gauge, 40" x 32". Use Pittsburgh lock seam.**
INCLUDES: simple layout, shear pieces, layout from templet & hand shear, form lock seams, bend to form & stiffen side & form joint tabs, assemble and close lock seam & material handling.

000.56129 hours per JOB SETUP TIME

000.85930 hours per 4ft duct sections to fabricate

LAT 006 **Fabricate eight foot sections of rectangular duct, 22 gauge, 40" x 32". Use Pittsburgh lock seam.**
INCLUDES: simple layout, shear pieces, layout from templet & hand shear, form lock seams, bend to form & stiffen sides & for joint tabs, assemble & close lock seam & material handling.

000.52872 hours per JOB SETUP TIME

000.95642 hours per 8ft duct sections to fabricate

LAT 029 **Fabricate rectangular tee, main opening 20" x 14", branch opening 14" x 10". Use Pittsburgh lock seams.**
INCLUDES: layout tee templet, shear pieces,layout from templet & hand shear, form pittsburg lock seam, bend for drive lock tab & pittsburg lock seam, position pieces, assemble & close pittsburg lock seam, and material handling.

000.85408 hours per JOB SETUP TIME

001.04505 hours per tees to fabricate

LAT 030 **Fabricate rectangular tee, 24 gauge, trunk opening 36" x 20", branch opening 20" x 18". Use Pittsburgh lock seams.**
INCLUDES: material handling, layout templet for tee, shear pieces, notch for bends, layout from templet & hand shear, form pittsburg lock seams, bend pieces for drive lock tabs &pittsbur lock seam, turn radius edges, position assemble & close.

001.06225 hours per JOB SETUP TIME

001.40656 hours per tees to fabricate

LAT 015 **Fabricate offset transitions, 20" x 14" rectangular to 10" round, 36" long, 24 gauge rivet and soldered seams. INCLUDES: layout templet, shear pieces, layout from templet and hand shear, notch for bends & tabs, form pittsburg lock seams,bend to form hood, roll collar, hammer neck tabs, assembl & close lock seams, drill & rivet , solder, & material handling**

002.03724 hours per JOB SETUP TIME

003.31135 hours per offset transitions to fabricate

LAT 017 **Fabricate straight transitions, 24" x 24"to 18" round, 36" long, 24 gauge.Fasten with lock seam & sheet metal screws,solder seam INCLUDES: fabricate transition (LAT-16), solder joints.**

002.00952 hours per JOB SETUP TIME

003.29198 hours per straight transitions to fabricate

LAT 016 **Fabricate straight transitions, 24" x 24" to 18" round, 36" long, 24 gauge. Fasten with lock seam and sheet metal screws. INCLUDES: templet layout, shear pieces, layout from templet & hand shear, make bends, roll collar, form lock seam, hammer to bend tabs, assemble & close lock seam, drill & install screws, and material handling.**

002.00952 hours per JOB SETUP TIME

002.44664 hours per straight transitions to fabricate

LAT 033 **Fabricate & install sets of three turning vanes in 90 deg.curved elbow(s) with 20" x 14"rectangular openings.Fasten with screws. INCLUDES: layout templet, shear pieces, layout from hand templet & hand cut, roll pieces in semi circle, hammer to bend tabs, drill and install screws, and material handling.**

000.52565 hours per JOB SETUP TIME

000.55834 hours per turning vanes to fabricate

DUCT-ROUND---Fabricate Components: ---

BRANCHES	ELBOWS	HANGERS	TAP-IN FITTINGS
REDUCERS	SECTIONS	OFFSETS	TRANSITIONS
		TEES	TURNING VANES

All layout, shear & return materials to storage, brake, align tabs, hand snip, pittsburg seam, assemble, close seams, and material handling are included in task.

TASK TIME STANDARDS LISTING

LAT031	BRANCH	3 way	20"dia.x16"dia.x2--8"dia.
LAT013	ELBOW		18"dia.x90deg.5pieces 22ga
LAT014	ELBOW		30"dia.x90deg.5pieces 22ga
LAT039	HANGER	U type	any size ---------11ga Bar
LAT023	OFFSET	45deg	8"dia. 3 ft long rivet joint
LAT020	REDUCER	4 ft long	30"dia.to 18"dia.rivet joint
LAT021	REDUCER	4 ft long	30"dia.to 18"dia.solderjoint
LAT007	SECTION	3 ft long	12"dia.or less 24-26ga
LAT008	SECTION	3 ft long	24"dia 24-26ga
LAT009	SECTION	3 ft long	30"dia. 24-26ga
LAT027	TEE		18"dia.rivet and solder
LAT026	TEE		18"dia.seam & screws
LAT028	TEE		24"dia.solder & screw seam
LAT025	TEE	45deg.	12"dia.solder & rivet seam
LAT033	TURNING VANES-&install for 90degree ELBOW		14"x20" elbow
LAT015	TRANSITION	3 ft long	10"dia.to14"x20" transition
LAT017	TRANSITION	3 ft long	18"dia.to24"x24" seam&solder
LAT016	TRANSITION	3 ft long	18"dia.to24"x24" seam&screw

LAT 031 Fabricate round "three way" branch fitting; main opening 20"dia. center opening 16"dia;side openings 8"dia.Fasten w/rivets&solde
INCLUDES: shear blanks, layout for branch, fitting, cut metal with pullmax, bend for single lock collars,roll to shape, hamme to bend tabs, position pieces, crimp turn flanges for collars, drill holes & install rivets, solder joints & material handling

000.09813 hours per JOB SETUP TIME

011.27547 hours per branches to fabricate

LAT 013 Fabricate round elbows 18" diameter, 5-piece - 90 degree, 22 gauge. Fasten with rivets.
INCLUDES: layout, layout from templet ,roll pieces in circle, roll edges of elbow, position & install rivets, crimp elbow end and material handling.

002.11332 hours per JOB SETUP TIME

001.95933 hours per round elbows to fabricate

LAT 014 Fabricate round elbows 30" diameter, 5-piece - 90 degree, 22 gauge. Fasten with rivets.
INCLUDES: layout , layout from templet & hand shear, roll pieces in circle, roll edges and crimp one end, position drill and install rivets, and material handling.

002.36919 hours per JOB SETUP TIME

003.06280 hours per round elbows to fabricate

LAT 039 Fabricate round duct hanger from 11 gauge bar stock.
INCLUDES: shear flat bar, punch holes 4 ea., roll bar in semicircle, bend bars, material handling.

000.27070 hours per JOB SETUP TIME

000.08016 hours per hangers to fabricate

LAT 023 Fabricate round 45 degree offsets 18" diameter, 36" long, fasten joints with rivets.
INCLUDES: layout offset templet, shear pieces, layout templet & hand shear, form single lock seam, roll pieces to circle, bend edges for fit & crimp one end, position pieces, assemble & close lock seams, drill & install rivets & material handling.

000.55030 hours per JOB SETUP TIME

000.77922 hours per offsets to fabricate

LAT 020 Fabricate straight round reducers, 30"D. to 18"D. by 48" long. Use a single lock seam and sheet metal screws. INCLUDES: layout templet, shear pieces, layout from templet & hand shear , form lock seams, roll pieces, assemble sections, close lock seam, drill holes & install 40 screws, crimp 1 end, and material handling.

001.28718 hours per JOB SETUP TIME

000.20739 hours per reducers to fabricate

LAT 021 Fabricate straight round reducers, 30"D. to 18"D. by 48" long. Solder seam for air tightness. INCLUDES: fabricate reducer (LAT-20), solder joints 96 inches.

001.28718 hours per JOB SETUP TIME

000.91595 hours per reducers to fabricate

LAT 007 Fabricate sections of round duct, 24-26 gauge, 12" diameter (or smaller) x 36" long. Use single lock seam. INCLUDES: simple layout, shear sheet, roll form lock seam, roll section in circle, assemble and close lock seam, crimp 2 ends, & material handling.

000.53371 hours per JOB SETUP TIME

000.18950 hours per 3ft duct sections to fabricate

LAT 008 Fabricate sections of round duct, 24-26 gauge, 24" diameter x 36" long. Use single lock seam. INCLUDES: simple layout, shear medium sheet, roll form lock seam, roll section section in circle, assemble & close lock seam, crimp both ends & material handling.

000.50667 hours per JOB SETUP TIME

000.21905 hours per 3ft duct sections to fabricate

LAT 009 Fabricate sections of round duct, 24-26 gauge, 30" diameter x 36" long. Use single lock seam. INCLUDES: simple layout, shear medium sheet, roll form lock seam, roll section in circle, assemble & close lock seam, crimp both ends & material handling.

000.50667 hours per JOB SETUP TIME

000.22031 hours per 3ft duct sections to fabricate

LAT 027 Fabricate round tee, all opening 18" diameter, 24 gauge, single lock seam or cylinders: Rivet and solder "T" joints. INCLUDES: layout for tee, shear pieces, layout tee from templet, cut out on pulmax, roll single lock seams, roll to for cylinders, assemble & close lock seams, drill and install rivet , solder joints, crimp ends, and material handling.

001.37292 hours per JOB SETUP TIME

001.01816 hours per tees to fabricate

LAT 026 Fabricate round tee, all openings 18" dia. Fasten with single lock seam and sheet metal screws. INCLUDES: layout for tee, shear pieces, layout from templet, cut out on pulmax, roll single lock seams, roll to form cylinders, assemble & close lock seams, notch for tabs, drill & install screws, crimp ends, and material handling.

000.97296 hours per JOB SETUP TIME

001.05927 hours per tees to fabricate

LAT 028 Fabricate round tee, all openings 24" dia., 24 gauge.Use single lock seam on cylinders & sheet metal screws & solder on joints. INCLUDES: layout tee templets, layout from templets & hand shear, roll single lock seams, roll to form cylinders, assemble & close lock seams, notch for seams, drill & install 30 screws, solder joint, crimp ends, and material handling.

000.96740 hours per JOB SETUP TIME

001.78165 hours per tees to fabricate

LAT 025 Fabricate tap-in fitting, 45 degree angle, 12" diameter with single lock seam cylinders. Rivet and solder connecting joints INCLUDES: layout fitting, shear blanks, layout from templet, cut pattern with pulmax, notch for tabs at joint, form single lock seam, roll cylinders, close lock seam, drill & install rivets, solder seams, & material handling.

001.13392 hours per JOB SETUP TIME

002.11849 hours per tap-in fittings to fabricate

LAT 033 Fabricate & install sets of three turning vanes in 90 deg.curved elbow(s) with 20" x 14"rectangular openings.Fasten with screws. INCLUDES: layout templet, shear pieces, layout from hand templet & hand cut, roll pieces in semi circle, hammer to bend tabs, drill and install screws, and material handling.

000.52565 hours per JOB SETUP TIME

000.55834 hours per turning vanes to fabricate

LAT 015 Fabricate offset transitions, 20" x 14" rectangular to 10" round, 36" long, 24 gauge rivet and soldered seams.
INCLUDES: layout templet, shear pieces, layout from templet and hand shear, notch for bends & tabs, form pittsburg lock seams,bend to form hood, roll collar, hammer neck tabs, assembl & close lock seams, drill & rivet , solder, & material handling

002.03724 hours per JOB SETUP TIME

003.31135 hours per offset transitions to fabricate

LAT 017 Fabricate straight transitions, 24" x 24"to 18" round, 36" long, 24 gauge.Fasten with lock seam & sheet metal screws,solder seam
INCLUDES: fabricate transition (LAT-16), solder joints.

002.00952 hours per JOB SETUP TIME

003.29198 hours per straight transitions to fabricate

LAT 016 Fabricate straight transitions, 24" x 24" to 18" round, 36" long, 24 gauge. Fasten with lock seam and sheet metal screws.
INCLUDES: templet layout, shear pieces, layout from templet & hand shear, make bends, roll collar, form lock seam, hammer to bend tabs, assemble & close lock seam, drill & install screws, and material handling.

002.00952 hours per JOB SETUP TIME

002.44664 hours per straight transitions to fabricate

DUCT--RECTANGULAR-remove & DUCT--ROUND-remove :
PARTIAL SYSTEMS : END CAPS : STRAIGHT SECTIONS :
ELBOWS : REGISTERS: ROOF VENTS :
FLEX-CONNECTORS : GRILLS : (*L = ladder included)

1.) THE KEY TO TASK APPLICATION IS THAT TASK ARE BASED ON THE REMOVAL OF : RECTANGULAR DUCT = 1 component, 2 slips, 2 drives, 2 hangers and handling time.
ROUND DUCT = 1 component, 1 hanger per section, and size of duct to account for number of screws removed and handling time.

2.) If a section is removed in the center of a run use the removal quanity of 2 sections for rectangular or round duct.

TASK TIME STANDARDS LISTING

LAT067	COMPONENT		Diffuser;Flexible connector;Grill;Register *L
LAT072	PARTIAL SYSTEM		Plenum chamber & 10 branch lines from chamber *L
LAT073	TOTAL SYSTEM		From furnace 8 REGISTERS (no-ladder) & total of 24-9ft DUCT SECTIONS
LAT065	ANY SIZE	rectangular	END CAP
LAT052	ANY SIZE	rectangular	STRAIGHT SECTION ; ELBOW ; JUNCTIONS; REDUCERS; OFFSET : ETC.
LAT066	ANY SIZE	round	END CAP 24"dia.average duct
LAT069	ROOF VENT	round	3 sections & flashing *L
LAT053	6"dia.	STRAIGHT SECTION; ELBOW; REDUCER;JUNCTION;OFFSET *L	
LAT054	8"dia.	STRAIGHT SECTION; ELBOW; REDUCER;JUNCTION;OFFSET *L	
LAT055	12"dia.	STRAIGHT SECTION; ELBOW; REDUCER;JUNCTION;OFFSET *L	
LAT056	18"dia.	STRAIGHT SECTION; ELBOW; REDUCER;JUNCTION;OFFSET *L	
LAT057	24"dia.	STRAIGHT SECTION; ELBOW; REDUCER;JUNCTION;OFFSET *L	
LAT058	30"dia.	STRAIGHT SECTION; ELBOW; REDUCER;JUNCTION;OFFSET *L	

LAT 067 Remove diffusers, registers, grills, or flexible connectors from duct. Use ladder.
INCLUDES: setup and move ascend descend ladder , remove screws, remove unit, material handling.

000.14543 hours per items to be removed

LAT 072 Remove plenum chamber, disconnect (10) branch lines from chamber and remove. Use ladder.
INCLUDES: setup & move ascend descend ladder,remove screws from duct & chamber, disassemble ducts & chamber, & material handling.

002.36216 hours per plenums to remove

LAT 073 Remove entire duct system from furnace including plenum chamber and (8) registers. Disassemble ducts in 9' sections. No ladder required.
INCLUDES: remove screws, disassemble duct in 9' sections, remov hanger bolts, material handling.

002.74218 hours per duct systems to remove

LAT 065 Remove rectangular duct end caps.
INCLUDES: setup and move ascend descend ladder, remove slip seams, material handling.

000.13516 hours per rectangular endcaps to install

LAT 052 Remove sections of rectangular duct, any size up to 40" x 30", (straight, elbows, junction reducers, etc.). Use ladder.
INCLUDES: setup & move, ascend descend ladder, remove slip & drives, duct and hangers , remove hanger bolts, material handling.

000.04234 hours per JOB SETUP TIME

000.19096 hours per rectangular duct sections to remove

LAT 066 Remove round duct end caps Avg. 24" duct or cover on sides of rectangular duct.
INCLUDES: setup and move ascend descend ladder, remove joint screws, material handling.

000.13278 hours per round endcaps to remove

LAT 069 Remove from roof three section round vent duct, including flashing. Use ladder.
INCLUDES: setup and remove ascend descend ladder, remove screws disassemble, material handling.

000.69656 hours per round duct vent to remove

LAT 053 **Remove sections (straight, elbow, reducers, offsets, or junctions) of 6" round duct. Use ladder.**
INCLUDES: setup and move, ascend descend ladder, remove screws per joint, remove hanger bolts, remove ducts and hangers, material handling.

000.02106 hours per JOB SETUP TIME

000.12532 hours per round duct sections to remove

LAT 054 **Remove sections (straight, elbows, reducers, offset, junctions, etc.) of 8" round duct. Use ladder.**
INCLUDES: setup & move ascend descend ladder, remove screws per joint, remove hanger bolts, remove ducts and hangers, material handling.

000.02106 hours per JOB SETUP TIME

000.14392 hours per round duct sections to remove

LAT 055 **Remove sections (straight, elbows, reducers, offsets, junctions, etc.) of 12" round duct. Use ladder.**
INCLUDES: setup & move ascend descend ladder, remove joint screws, remove hanger bolts, remove ducts & hangers, material handling.

000.02106 hours per JOB SETUP TIME

000.16253 hours per round duct sections to remove

LAT 056 **Remove sections (straight, elbow, reducers, offsets, junctions, branches, etc.) of 18" round duct. Use ladder.**
INCLUDES: setup & move ascend descend ladder, remove joint screws, remove hanger bolts, remove ducts & hangers, material handling.

000.02106 hours per JOB SETUP TIME

000.18220 hours per round duct sections to remove

LAT 057 **Remove sections (straight, elbows, reducers, offsets, junctions, etc.) of 24" duct. Use ladder.**
INCLUDES: setup & move ascend descend ladder, remove joint screws, remove hanger bolts, remove ducts and hangers, material handling.

000.02106 hours per JOB SETUP TIME

000.20186 hours per round duct sections to remove

LAT 058 Remove sections (straight, elbow, reducer, offset, junction, etc.) of 30" round duct. Use ladder.
INCLUDES: setup & move ascend descend ladder, remove joint screws, remove hanger bolts, remove ducts and hangers, material handling.

000.02106 hours per JOB SETUP TIME

000.23030 hours per round duct sections to remove

DUCT..RECTANGULAR---Install & // DUCT..ROUND---Install:---

				SEAM REINFORCEMENT	
COVER	DAMPER	BRANCH	END CAPS	FLEXIBLE CONNECTORS	
GRILLS	ELBOWS	REDUCERS	JUNCTIONS	STRAIGHT SECTIONS	

(note: *S=install with screws,*L= ladder included)

explaination : Task apply to type duct using - slip joints, drives, locks, and hangers. Task are keyed to include installation at one end only . For installation in the middle of a run then addition al joint is included by adding a section.

TASK TIME STANDARDS LISTING

LAT061	COVER OVER DUCT OPENING	any size	*L
LAT070	BRANCH into trunk line	10"x14"	*L
LAT071	BRANCH into trunk line	20"x14"	*L
LAT068	DAMPER QUADRANT in duct or elbow	mean any size	
LAT059	END CAPS	mean any size	
LAT062	FLEXIBLE CONNECTOR	13.5"x16"	*L
LAT064	GRILLS into supply line	10"x24"	*L
LAT044	STRAIGHT SECTION; ELBOW ; REDUCER JUNCTION ; OFFSET	10"x14"	*L
LAT045	STRAIGHT SECTION; ELBOW ; REDUCER JUNCTION ; OFFSET	14"x20"	*L
LAT169	10"D DAMPER for EXHAUST STACK balance type		*L
LAT063	10"D DIFFUSERS	10" I-DIA.	*L
LAT060	24"D END CAP average size	24" dia.	*L
LAT046	6"D STRAIGHT SECTION; ELBOW : BRANCH: OFFSET:	REDUCER TEE	*L
LAT047	8"D STRAIGHT SECTION; ELBOW ; BRANCH; OFFSET;	REDUCER TEE	*L
LAT048	12"D STRAIGHT SECTION; ELBOW ; BRANCH; OFFSET;	REDUCER TEE	*L
LAT049	18"D STRAIGHT SECTION; ELBOW ; BRANCH; OFFSET;	REDUCER TEE	*L
LAT050	24"D STRAIGHT SECTION; ELBOW ; BRANCH; OFFSET;	REDUCER TEE	*L
LAT051	30"D STRAIGHT SECTION; ELBOW ; BRANCH; OFFSET;	REDUCER TEE	*L
LAT041	DRILL AND RIVET 20 holes seam	on ground	
LAT042	DRILL AND SCREW 40 holes seam	on ground	
LAT043	SOLDER 36" seam	on groung electric iron	

LAT 061 Install cover over duct opening. Use ladder.
INCLUDES: set up and move ascend descend ladder, position sheet to duct , drill holes and secure plate to duct with screws, material handling.

000.23160 hours per duct cover to install

LAT 070 Install - 14" x 10" branch into trunk line. Cut opening in trunk line. Notch one end of branch and bend tabs to fit. Fasten with sheet metal screws. Use ladder.
INCLUDES: setup move ascend descend ladder, mark & cut opening in duct, drill holes to start cuts, cut opening in trunk & notc , hammer tabs, drill holes & fasten tabs & hangers & mtlhandlin

000.97381 hours per rectangular branches to install

LAT 071 Install - 20" x 14" branch into trunk line. Cut opening in trunk line. Notch one end of branch and bend tabs to fit. Fasten with sheet metal screws. Use ladder.
INCLUDES:setup & move ascend descend ladder,drill holes to star cuts, cut trunk opening & notch, position & align branch hammer tabs, drill & fasten tabs & hangers, wood screw& matl.handling.

001.31660 hours per rectangular branches to install

LAT 068 Install damper quadrant in rectangular duct or elbow.
Fasten with rivets and sheet metal screws.
INCLUDES: measure and layout damper and locate shaft, shear metal for damper plate, center punch shaft holes, drill and start cuts, drill holes & secure shaft plate with rivets, drill holes & secure indicator dial, position damper & check operatio

000.36534 hours per duct dampers to install

LAT 059 Install rectangular end caps.
INCLUDES: setup and move ascend descend ladder, position end ca and assemble drive slip seams, material handling.

000.07753 hours per rectangular endcaps to install

LAT 062 Install flexible connector to air conditioning unit, 16" x 13-1/3" opening. Secure with sheet metal screws. Use ladder.
INCLUDES: setup and move ascend descend ladder , align and center punch hoiles, drill and install screws, material handlin .

000.37704 hours per flexible connectors to install

LAT 064 Install - 10" x 24" grills in supply line. Fasten with sheet metal screws. Use ladder.
INCLUDES: measure and mark to cut openings, drill holes & start cuts, cut openings with snips, position grill in openings, dril holes and install screws, set up and move ascend descend ladder material handling.

000.35491 hours per duct grills to install

LAT 044 Install sections of 10" x 14" rectangular duct (straight, elbow, tee reducer, etc.). Connect with drive slip seam. Use ladder.
INCLUDES: set up assend & decend ladder, layout for new ducts, secure hanger brackets to ceiling, drill & install hangers w/ screws,position & assemble drive slip seams,& material handling

000.18858 hours per JOB SETUP TIME

000.24361 hours per rectangular duct sections to install

LAT 045 Install sections (straight, elbow, reducer, etc.) of 14" x 20" rectangular duct. Connect with drive lock seams. Use ladder.
INCLUDERS: set up ascend descend ladder, layout for new duct location, secure hangers to ceiling, drill/screw hangers to ducts, position & assemble duct & drive slip seams, and materia handling.

000.18858 hours per JOB SETUP TIME

000.29226 hours per rectangular duct sections to install

LAT 169 Install 10" exhaust stack vent damper (balance type for 10" Dia. pipe).
INCLUDES: unpack damper, bend safty tabs, install 4 nuts & bolt , position and assemble damper holder, assemble external damper parts, install & tighten clamp screws, mark cuts in pipe & cut hole &tabs, position drill hammer & fasten, material handling.

000.25657 hours per dampers to install

LAT 063 Install - 10" I.D. diffusers in air conditioning supply duct. Fasten tabs with sheet - metal screws. Use ladder.
INCLUDES: measure and cut openings, scribe circles, drill holes and start cuts, cut opening, position diffuser & hammer tabs, drill and install screws, set up and move ascend descend ladder material handling.

000.40823 hours per duct diffusers to install

LAT 060 Install round duct end caps - Avg. of 24" size.
INCLUDES: setup and move ascend descend ladder, drill holes and install screws, material handling.

000.21700 hours per round duct endcaps to install

LAT 046 Install sections of 6" diameter duct, (straight, branch, offset, elbow, tee, reducer, etc.). Connect with sheet metal screws. Use ladder.
INCLUDES: set up ascend descend ladder, layout for new ducts, install hangers to ceiling, position duct drill holes & install screws, material handling.

000.18858 hours per JOB SETUP TIME

000.17689 hours per round duct sections to install

LAT 047 Install sections of 8" diameter duct (straight, branch, offset, elbow, tee, reducer, etc.). Connect with sheet metal screws. Use ladder.
INCLUDES: set up ascend descend ladder, layout for new ducts, install hanger in ceiling, position duct, drill holes and install screws, and material handling.

000.18858 hours per JOB SETUP TIME

000.21066 hours per round duct sections to install

LAT 048 Install sections of 12" diameter duct (straight, branch, offset, elbow, tee, reducer, etc.). Connect with sheet metal screws. Use ladder.
INCLUDES: set up ascend descend ladder, layout for new duct, position duct, secure hangers in ceiling, drill holes & install screws, and material handling.

000.18858 hours per JOB SETUP TIME

000.23950 hours per round duct sections to install

LAT 049 Install sections of 18" diameter duct (straight, branch, offset, elbow, tee, reducer, etc.). Connect with sheet metal screws. Use ladder.
INCLUDES: set up ascend descend ladder, layout for new duct, position duct, secure hangers to ceiling, drill & install screw in joint, and material handling.

000.18858 hours per JOB SETUP TIME

000.27327 hours per round duct sections to install

LAT 050 Install sections of 24" round duct (straight, branch, elbows, offset, tee, reducer, etc.). Connect with sheet metal screws. Use ladder.
INCLUDES: set up ascend descend ladder, layout for new ducts, install hangers to ceiling, position ducts, drill holes and install screws, and material handling.

000.18858 hours per JOB SETUP TIME

000.31252 hours per round duct sections to install

LAT 051 Install sections of 30" diameter duct (straight, branch, elbow, offset, tee, reducer, etc.). Connect with sheet metal screws. Use ladder.
INCLUDES: set up ascend descend, layout for new ducts, install hangers in ceiling, position ducts, drill holes and install screws in joint and material handling.

000.18858 hours per JOB SETUP TIME

000.36071 hours per round duct sections to install

LAT 041 Reinforce sheet metal seams by drilling holes and installing 20 rivets (no assembly time included).
INCLUDES: drill holes & install rivets.

000.43187 hours per 20 rivet seams to fabricate

LAT 042 Reinforce sheet metal seam by drilling holes and installing 40 screws. No assembly time included.
INCLUDES: drill holes and install screws.

000.64162 hours per 40 screw seam to install

LAT 043 Reinforce seams by soldering. Ave. seam is 36" long. Use electric soldering iron.
INCLUDES: solder sheetmetal.

000.28576 hours per 3ft seams to install

NOTE: most gutter sections are available in vendor stocks and it is not normally the practice for most facilities to fabricate their gutter parts.
This fabrication is not on a gutter machine.

TASK TIME STANDARDS LISTING

LAT085	solder	BOX GUTTER TYPE 10 ft
LAT088	solder	DOWNSPOUT SECTION 10 ft
LAT086	solder	ELBOW does not include hrs.fab.of downspout blank
LAT087	slip type	DOWNSPOUT SECTION 10 ft

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 085 Fabricate ten foot sections of box type gutter, 26 gauge.
INCLUDES: shear pieces, bend to form gutter, material handling.

000.09813 hours per JOB SETUP TIME

000.15320 hours per 10ft sections of gutter to fabricate

LAT 088 Fabricate ten foot sections of downspout, 26 gauge, soldered seam.
INCLUDES: shear large sheets, form lock seam, bend to form downspout, assemble and close pittsburg lock seam, solder seam, material handling.

000.10523 hours per JOB SETUP TIME

001.04559 hours per downspout sections to fabricate

LAT 086 Fabricate gutter elbows, with mitered ends and soldered seams, 26 gauge.
INCLUDES: layout templet, mark from templet & hand shear, assemble & solder joint, material handling.

000.65072 hours per JOB SETUP TIME

000.36436 hours per gutter elbows to fabricate

LAT 087 Fabricate ten foot sections of downspout, 26 gauge.
INCLUDES: shear large sheets , form lock seam, bend to form downspout, assemble and close pittsburg lock, material handling

000.10523 hours per JOB SETUP TIME

000.26087 hours per downspout sections to fabricate

NOTE: Gutters and downspouts: Remove Solder & Slip Joint Type Downspouts are two sections each. Add one section for each turn and one section for each offset. Includes hangers.
(*L = use ladder & *S = use scaffold)

DEFINITIONS OF VARIABLES:
JOB = ladder setup
SECTION = hours for work and climbing for removal of 10' section of box gutter or 10' of downspout
DOWNSPOUT= work and climbing for removal of two 10' sections of downspout

TASK TIME STANDARDS LISTING

LAT103	DOWNSPOUT	*L	solder type	addl.sections	10 ft pc.
LAT101	GUTTER&DOWNSPOUT	*L	solder type	addl.sections	10 ft pc.
LAT102	GUTTER&DOWNSPOUT	*S	solder type	addl.sections	10 ft pc.
LAT098	GUTTER&DOWNSPOUT	*L	slip joint type		10 ft pc.
LAT099	GUTTER&DOWNSPOUT	*S	slip joint type		10 ft pc.
LAT100	DOWNSPOUT	*L	slip joint type		10 ft pc.

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 103 Remove additional solder joint downspouts using ladder. (2 section downspouts).
INCLUDES: remove soldered downspout using ladder- consist of 2 sections, material handling.

000.04210 hours per JOB SETUP TIME

000.21540 hours per downspouts to install

LAT 101 Remove soldered joint gutters and downspouts. Use ladder.
INCLUDES: remove section of solder gutter, remove downspout- consist of 2 sections, material handling.

000.04210 hours per JOB SETUP TIME

000.10770 hours per gutter sections to install

000.21540 hours per downspouts to install

LAT 102 Remove Soldered joint gutter and downspouts. Use scaffold.
INCLUDES: remove section of soldered gutter, remove soldered downspout- consist of 2 sections, material handling.

000.09490 hours per gutter sections to remove

000.18980 hours per downspouts to remove

LAT 098 Remove slip joint gutters and downspouts. Use ladder.
INCLUDES: remove gutter, remove downspouts (consist of 2 sections), material handling.

000.04210 hours per JOB SETUP TIME

000.05990 hours per gutter sections to install

000.11980 hours per downspouts to install

LAT 099 Remove slip joint gutter and downspouts. Use scaffold.
INCLUDES: remove gutter, remove downspouts(consist of 2 section) , material handling.

000.06610 hours per gutter sections to install

000.13220 hours per downspouts to install

LAT 100 Remove additional downspouts, slip joint type, using a ladder.
INCLUDES: remove additional downspout - each downspout is 2 sections, material handling.

000.04210 hours per JOB SETUP TIME

000.11980 hours per downspouts remove

NOTE: Gutters and Downspouts: Remove Solder Joint type Downspouts are two sections each. Add one section for each turn and one section for each offset, separate drops and miters. hangers are included. *L = time for using ladder included *S = using scaffold already set up

TASK TIME STANDARDS LISTING

LAT110	GUTTER HANGERS	slip or solder	*L
LAT104	GUTTER & DOWNSPOUTS	slip type	*L
LAT106	DOWNSPOUTS	slip type addl.2 piece drop	*L
LAT107	BOOT	slip type with screws	*L
LAT110	GUTTER HANGERS	solder or slip	*L
LAT105	DOWNSPOUT&GUTTER	solder joint type	*L
LAT108	DOWNSPOUTS	additional 2 piece drops solder joint type	*L
LAT109	BOOT	with solder on downspouts	*L

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 110 Replace hangers to align gutters. Use ladder.
INCLUDES: setup & move assend decend ladder, remove old hanger, install hanger.

000.07189 hours per hangers replace

LAT 104 Remove and reinstall slip joint gutters and downspouts. Use ladder.
INCLUDES: remove gutter, remove downspout- consist of 2 section , install gutter per section, install downspout- consist of 2 sections, material handling.

000.24540 hours per JOB SETUP TIME

000.23500 hours per gutter sections to replace

000.48330 hours per downspouts to replace

LAT 106 Remove and reinstall additional slip joint downspouts using a ladder.
INCLUDES: remove downspout, install downspout, material handlin .

000.04210 hours per JOB SETUP TIME

000.48330 hours per downspouts to replace

LAT 107 Remove and reinstall downspout boots fastened with sheet metal screws.
INCLUDES: remove screws from boot, remove old boot, install boot on downspout, material handling.

000.13020 hours per boots to replace

LAT 110 Replace hangers to align gutters. Use ladder.
INCLUDES: setup & move assend decend ladder, remove old hanger, install hanger.

000.07189 hours per hangers replace

LAT 105 Remove and reinstall solder joint gutters and downspouts using a ladder. Downspouts-2 sections each.
INCLUDES: remove gutter, remove downspout- consist of 2 section , install gutter, install downspouts- consist of 2 sections, material handling.

000.04210 hours per JOB SETUP TIME

000.33630 hours per gutter sections to replace

000.51570 hours per downspouts to replace

LAT 108 Remove and reinstall additional solder joint downspouts using a ladder.
INCLUDES: remove downspouts- consists of 2 sections, install downspouts, material handling.

000.04210 hours per JOB SETUP TIME

000.51570 hours per downspouts to replace

LAT 109 Remove and reinstall solder joint boots on downspouts.
INCLUDES: remove boot from downspout.

000.04210 hours per JOB SETUP TIME

000.33130 hours per boots to replace

Gutters and Downspouts: Install components using a ladder.
Downspouts are two sections each. Add one section for each turn
and one section for each offset. Includes hangers.
Task variable = time for a drop of 2-10' pieces.
DEFINATIONS OF VARIABLES:
JOB = ladder setup and removal from truck
SECTION = hours for work and climbing for installation of 10'
section of box gutter or 10' of downspout.
DOWNSPOUT = work and climbing for removal of 2-10' sections of
downspout.
CONTINUED
Work includes all layout , climbing , material handling ,
cutting , fitting , screwing , application of sealants or
solder, installing hangers.
*L = ladder time included *S = scaffold used and in place

TASK TIME STANDARDS LISTING

LAT092	BOOTS	*L	slip type with screws on dwnspts
LAT093	DOWNSPOUTS	*L	slip type addl. piece
LAT089	GUTTER & DOWNSPOUTS	*L	slip type using ladder
LAT090	GUTTER & DOWNSPOUTS	*S	slip type using scaffold
LAT096	BOOTS		with solder on downspouts
LAT094	GUTTER & DOWNSPOUTS	*L	solder type using ladder
LAT095	GUTTER & DOWNSPOUTS	*S	solder type using scaffold in place
LAT097	DOWNSPOUTS	*L	solder type addl. piece
LAT091	END CAPS	*L	solder joint

LAT 092 Install boots on downspouts. Fasten with sheet metal screws.
INCLUDES: position parts, prepare to & drill holes & install screws, material handling.

000.08470 hours per boots to install

LAT 093 Install additional (Slip Joint type) downspouts using a ladder.
INCLUDES: install downspouts, material handling.

000.37550 hours per downspouts to install

LAT 089 Install slip joint gutters and downspouts. Use ladder.
INCLUDES: install gutter, install downspouts, material handling

000.20330 hours per JOB SETUP TIME

000.18710 hours per gutter sections to install

000.37550 hours per downspouts to install

LAT 090 Install slip joint gutters and downspouts. Use scaffold (already set up).
INCLUDES: install gutter, install downspout, material handling.

000.16210 hours per JOB SETUP TIME

000.14370 hours per gutter sections to install

000.37550 hours per downspouts to install

LAT 096 Install solder joint boots on downspouts.
INCLUDES: assemble & solder joint, material handling.

000.23560 hours per boots to install

LAT 094 Install soldered joint gutters and downspouts. Use ladder.
INCLUDES: install gutter, install downspouts, material handling

000.20330 hours per JOB SETUP TIME

000.24060 hours per gutter sections to install

000.31230 hours per downspouts to install

LAT 095 Install soldered joint gutters and downspouts. Use scaffold (already set up).
INCLUDES: install gutter, install downspouts, material handling

000.16120 hours per JOB SETUP TIME

000.20040 hours per gutter sections to install

000.31230 hours per downspouts to install

LAT 097 Install additional (solder joint type) downspouts.
INCLUDES: install downspouts, material handling.

000.31230 hours per downspouts to install

LAT 091 Install solder joint end caps on gutter using a ladder.
INCLUDES: setup & move ascend descend ladder, assemble & solder joint.

000.26100 hours per end caps to install

MISC fabricate BOXES,CABINETS,HOODS,SINKS,ETC.
also see 170&180

FABRICATE -- MISC. items that are not normally welded to any degree. See:(WELD.. MISC.FABRICATE) for items normally welded (layout, form, assemble times included)

TASK TIME STANDARDS LISTING

LAT277	BOX-open ended	3ft cube_ 16ga steel, 2 L panels&top tabs assembled w/screws/bolts
LAT278	BOX-open ended	3ft cube_ 16ga steel, 2 L panels&top pittsburg lock seam assembled
LAT161	BOX JUNCTION	24"x24"x10" steel spotweld & screw on covers
LAT148	BRACKET ANGLE	3/16"thk.2"x3"x3"steel punch 1 hole each end
LAT149	BRACKET "Z"	2"wide 3"x3"x3"legs punch 1 hole each in 2 legs
LAT155	CABINET STORAGE	18"x18"x48"-16ga 80 rivets with 2 front doors
LAT156	CABINET STORAGE	36"x84"x18" outside 150tack welds, 6 shelves & 2 doors
LAT176	CLIP ANY-90 deg. UP too	1/4"thk., 3"wide, 8"legs, punch 1 hole in each leg
LAT142	COVER MOTOR (box)	24"x24"x36"box type, 33 rivets, 192" pittsburg seam
LAT158	CYLINDER CONTAINER	12"dia.x 18"..16ga. solder all seams
LAT166	DEAD BOLT	3/4"bar & 2 clips
LAT144	DOOR CANOPY	35"x42"x8"drop ....22ga. curved pittsburg seams
LAT145	GUARD MOTOR	18"dia.x 48"long, hat section type guard
LAT152	HOOD EXHAUST	24"x36"--6"x6" duct
LAT153	HOOD EXHAUST	30"x30"--6"dia.
LAT154	HOOD EXHAUST	30"x30"--6"DIA. OFFSET
LAT146	HOOD MOTOR	12"x12"x24" wall flange attached, front edge rolled
LAT160	PANS..DRIP	16"x72"x2" solder corners
LAT147	SHELVES	18"x24" stiffening flange on 3 edges front double hem
LAT143	SHIELD MOTOR	24"dia.x48"long 11ga., 24 rivets
LAT150	SIGN BLANK	12"x36" 16ga., 4 holes in each blank
LAT170	SIGN BLANK(ANY SIZE) to	48"x48" 16ga.punch 9 holes in sign
LAT151	SIGN BLANK-TRIANGULAR	18"x18"x18" punch 2 mounting holes
LAT162	SINK & LEGS	20"x20"x12" weld legs,drain,

			solder seams
LAT163	SINK & DRYING BOARDS	18"x20"x10"&--10"x24"boards &	6" splash rail
LAT164	SINK & DRYING BOARDS	20"x24"x10"&--20"x20"boards	
LAT157	TANK WELDED STAINLESS	48"dia.x 36"deep..1/4"thk. &	I-beam reinforced bottom
LAT159	TROUGH URINALS	72"x20"x12" 16ga.with 2" apron &	solder seams
LAT141	DOOR (cover with tin)	3ftx7ft door , solder all joints	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 277 FABRICATE OPEN ENDED BOX 3'x3'x3'.....of 16 gage material. DESIGN =2 L panels with stiffener creases & 1" tab flanges, joined to form box with self-tapping screws. Corners are notche in panels. Top is made of sheared square with 2 stiffeners, creases & 48 punched holes. All components are assembled with with self tapping screws.

000.66657 hours per layouts (#of times a templet must be made o r individual layout
002.03298 hours per boxes fabricated

LAT 278 FABRICATE OPEN ENDED BOX 3ftx3ftx3ft..of 24 gage material. DESIGN = 2 L panenl with stiffener creases & 1" tab flanges. Th top is a square with tabs. All components are joined with PITTSBURG LOCK seamed assembly, hammered and staked.

000.45764 hours per layouts (#of times a templet must be made o r individual layout
000.98945 hours per boxes fabricated

LAT 161 Fabricate electrical junction boxes with cover plate 24" x 24" x 10" deep. Use spot weld construction with screw on covers. INCLUDES: layout box, layout from templet, shear box, shear fac plate, notch , bend to form box, spotweld, drill & install screws, material handling.

000.45606 hours per JOB SETUP TIME

001.14620 hours per junction boxes to fabricate

LAT 148 Fabricate angle brackets from 3/16" x 2" bar stock; (1) hole each end.
INCLUDES: shear small sheet, punch holes, bend to form angles, material handling.

000.09813 hours per JOB SETUP TIME

000.11713 hours per brackets to fabricate

LAT 149 **Fabricate "Z" brackets 11 gauge, 2" x 3" deep, with 1/4" hole each end.**
INCLUDES: shear small sheet, punch holes, bend to form angles, material handling.

000.09813 hours per JOB SETUP TIME

000.14115 hours per brackets to fabricate

LAT 155 **Fabricate storage cabinet 48" x 18" deep; 16 gauge; one shelf angle and plate leg anchors.**
INCLUDES: layout parts, shear large sheets, notch per bending, bend, fabricate leg anchors, assemble drill & install rivets, weld legs on , material handling.

000.09813 hours per JOB SETUP TIME

004.78114 hours per cabinets to fabricate

LAT 156 **Fabricate storage cabinets (outside type), 36" x 84" x 18" deep; includes (6) shelves and double doors.**
INCLUDES: layout cabinet, shear large sheets, notch , bend, fabricate 4 leg anchors, position parts for welding, position & weld, weld hinges & pulls, material handling.

000.09813 hours per JOB SETUP TIME

005.37872 hours per cabinets to fabricate

LAT 176 **Fabricate any clip from bar stock, up to 1/4" thick, with one hole in one side, up to 3" wide and 8" legs, and one bend.**
INCLUDES: shear stock, punch hole in clip, bend clip 90 degrees

000.01407 hours per JOB SETUP TIME

000.03920 hours per clips to fabricate

LAT 142 **Fabricate covers for motors, 22 gauge, 24" x 36" x 36" high, with 1/8" x 1 1/2" angle around bottom for mounting.**
INCLUDES: layout cover, shear large sheets, shear notch & punch angles for mounting & rivets, pittsburg lock seam, bend edges & assemble box & drill & install angle with rivets, material handling.

000.09813 hours per JOB SETUP TIME

001.92661 hours per motor covers to fabricate

LAT 158 Fabricate containers 12" dia. x 18" high - 16 gauge; all joints soldered. Includes lifting handles.
INCLUDES: simple layout, shear medium sheets, shear to radius, bend , close lock seam, notch, roll, hem bottom, turn bottom flange, lock hem, roll top, solder bottom & sides, shear & spot weld lifting ears.

000.19626 hours per JOB SETUP TIME

002.26403 hours per containers to fabricate

LAT 166 Fabricate dead bolt (cane lock bolt) using 3/4" steel bar stock. Includes fabricating (2) clips from 1/8" thick sheet of metal.
INCLUDES: set up saw & cut, to grinder & deburr, prepare torch heat bend & quench, shear measure and scribe , set up drill & drill , form components.

000.22362 hours per JOB SETUP TIME

000.11136 hours per pieces to fabricate

LAT 144 Fabricate door canopies, 22 gauge, 42" x 35" with 8" drop. Use double hem mounting edge. Stiffen skirt with through round edges.
INCLUDES: layout canopy, shear large sheet, bend for lockseams hem and stiffeners, notch, form lock seam & assemble, drill & install rivets, punch holes for mounting, material handling.

000.09130 hours per JOB SETUP TIME

001.27893 hours per door canopies to fabricate

LAT 145 Fabricate motor of shaft guards 18" Dia. x 48" long, single hem all edges.
INCLUDES: shear large sheet, punch holes for mounting, break hem edges, material handling.

000.09130 hours per JOB SETUP TIME

000.37290 hours per motor guards to fabricate

LAT 152 Fabricate venting hoods, 24 gauge galvanize, 24" x 36" to 6" x 6" exhaust duct. Use Pittsburgh lock seams.
INCLUDES: layout hood, shear large sheets, shear small sheets, form pittsburg lock seam, bend for hem & lock, assemble lock seam, drill and install rivets on skirt, material handling.

000.09813 hours per JOB SETUP TIME

001.44141 hours per vent hoods to fabricate

LAT 153 Fabricate venting hoods, 30" x 30" centered 6" Dia. exhaust.
INCLUDES: layout hood, shear large sheet, shear small sheets, shear exhaust boot, form pittsburg lock seams, roll sheet full circle, bend for hem & lock, drill & install rivets on skirt, solder in boot.

000.09813 hours per JOB SETUP TIME

001.64998 hours per vent hoods to fabricate

LAT 154 Fabricate venting hoods 30" x 30" with off-center - 6" Dia. exhaust.
INCLUDES: layout hood, shear sheets, shear using pullmax, bend for forming & lock, shear small sheet for exhaust boot, bend fo single lock, roll sheet full circle, close lock seam, notch sea & angle, shear angle, assemble & solder, material handling.

000.09813 hours per JOB SETUP TIME

003.58013 hours per vent hoods to fabricate

LAT 146 Fabricate hoods for motors, 22 gauge, 12" x 12" x 24". Use Pittsburgh lock seam.
INCLUDES: layout small sheet, layout from templet & shear, form pittsburg lock seam, break for forming, roll & turn up edges, assemble lock seam, punch holes in edge, material handling.

001.09130 hours per JOB SETUP TIME

001.10729 hours per motor hoods to fabricate

LAT 160 Fabricate drip pans 16" x 72" x 2" deep with double hem edges. Rivet and solder corner seams.
INCLUDES: shear large sheets, notch corners with snips, bend , drill holes and rivet, solder corners & drain outlet, punch drain hole, material handling.

000.09813 hours per JOB SETUP TIME

000.76870 hours per drip pans to fabricate

LAT 147 Fabricate shelves 18" x 24", front edge double hem, with stiffening flange on (3) edges. Punch (6) holes for mounting.
INCLUDES: sfear large sheet, shear medium sheet, notch corners, punch holes, bend to form angles & hem, material handling.

000.09813 hours per JOB SETUP TIME

000.35529 hours per shelves to fabricate

LAT 143 Fabricate shields for motors of shaft couplings, 22 gauge, 24" diameter x 48" long. Use 11 gauge, 1 1/2" band supports.
INCLUDES: shear large sheet, punch mounting holes, bend support , roll bands, roll sheets, drill holes and install rivets, material handling.

000.09130 hours per JOB SETUP TIME

001.36880 hours per motor shields to fabricate

LAT 150 Fabricate sign blanks 12" x 36" - 16 gauge. Punch (4) holes each blank.
INCLUDES: shear large sheet, punch holes for mounting, material handling.

000.16038 hours per sign blanks to fabricate

LAT 170 Fabricate sign blank up to 48" x 48". Drill up to 9 holes. 16 gauge metal.
INCLUDES: shear large sheet, punch 9 holes, material handling.

000.17283 hours per signs to fabricate

LAT 151 Fabricate triangular sign blanks, 18" each side. Punch (2) holes for mounting.
INCLUDES: shear large sheet, shear small sheet, cut point to round on circle shear, punch holes, material handling.

000.16793 hours per sign blanks to fabricate

LAT 162 Fabricate sinks, 16 gauge, 20" x 20" x 12" deep with 2" wide, stiffening apron around top edge. Mount on 1-1/2" x 1-1/2" x 1/4" angle legs. Solder seams.
INCLUDES: shear large sheet, layout sink, shear with pullmax, bend, shear pieces for legs & flanges, tack weld sink,legs & flanges, solder seams, punch drain, weld nipple, matl. handling

000.09813 hours per JOB SETUP TIME

002.06602 hours per sinks to fabricate

LAT 163 Fabricate sinks with double drain boards, 12 gauge stainless steel, 18" x 20" x 10" deep; drying boards 24" long, 6" high splash rail and boxed edges. Welded construction with all weld ground smooth.
INCLUDES: layout & shear & pullmax sink material, notch bend weld punch components and drain nipple, material handling.

000.09813 hours per JOB SETUP TIME

002.90894 hours per sinks to fabricate

LAT 164 Fabricate sinks with double drain boards, 16 gauge, 20" x 24" x 10" deep. Drying boards 20" x 20" with 4" high splash rail; edges boxed for stiffening, all joints soldered.
INCLUDES: layout sink, pullmax cut & shear out patterns, punch holes for drain, bend , drill & rivet, solder all joints, material handling.

000.09813 hours per JOB SETUP TIME

002.61815 hours per sinks to fabricate

LAT 157 Fabricate tanks, 48" Dia. x 36" deep top open; 1/4" stainless steel, welded construction; bottom reinforced with crossed 4" I-beams; includes (3) lift rings and drain spout.
INCLUDES: layout large sheet, shear sheets, burn bottom, punch hole for drain spout, roll plate for tank, weld components, fabricate I beams & lift rings & weld , material handling.

005.25638 hours per tanks to fabricate

LAT 159 Fabricate trough urinals, 16 gauge, 72" x 20" x 12" deep with 2" wide stiffening apron around top edge. Solder seams.
INCLUDES: shear large sheet, layout urinal, shear pieces, bend, solder all seams, punch drain hole, weld nipple into drain, material handling.

000.09813 hours per JOB SETUP TIME

002.01361 hours per urinals to fabricate

LAT 141 Cover 3ft x 7ft flush doors with gauge metal. Use soldered joints.
INCLUDES: shear large metal sheets, layout door cover, shear small sheets, bend to form edges, nail edges for soldering, material handling.

000.09813 hours per JOB SETUP TIME

003.37687 hours per doors to cover

FABRICATE - REPAIR - REPLACE - PIPE ASSEMBLIES (& pipe hangers)
Subject task may also be applied as structural assembly members in WELD TASK- if so for further weld task see WELD.

S = small = piece to 10 lbs.
M = medium = piece > 10 lbs.& <60 lbs.
L = large = piece > 60 lbs.

TASK TIME STANDARDS LISTING

EAT083	1" D	1 JOINT	assemble & weld to other pipe in shop (plastic transit)
EAT039	1.5"D	1 JOINT	burn&weld-no-fixture, join to other pipe or shape
EAT043	4" D	ASSEMBLY	burn&weld-no-fixture, 2 FLANGES or 1 FITTING to)
EAT040	4" D	1 JOINT	burn&weld-no-fixture join to other pipe or shape
EAT045	6" D	ASSEMBLY	burn&weld-no-fixture 2 FLANGES or 1 FITTING to
EAT041	6" D	1 JOINT	burn&weld-no-fixture join to other pipe or shape
EAT053	6" D	ASSEMBLY	burn&weld-no-fixture 2 FITTINGS, 2 FLANGES, 1 REDUCER
EAT047	6" D	Y-BRANCH	layout, burn, assemble& weld
EAT090	6" D	CHAMFER	burning torch & grind in prone position-limited access
EAT089	6" D	1 CUT	burning torch,limited access in prone position
EAT091	6" D	1 JOINT	align,tack,fit,weld,ELBOW limited access in prone position
EAT087	6" D	1 SADDLE PATCH	fabricate,fit,weld limited access in prone position
EAT092	6" D	ELBOW-REPLACE	incls.removeing old limited access in prone position
EAT099	6" D	3 ft SECTION-REPLACE	includes remove old limited access in prone position
EAT046	6" D	REMOVE SECTION & INSTALL 1 FITTING	install, assemble, weld
EAT042	8" D	1 JOINT	burn&weld-no-fixture join to other pipe or shape
EAT052	8" D	REMOVE SECTION & INSTALL 1 FITTING	install, assemble , weld

EAT056 8" D REMOVE SECTIONS & INSTALL-1 REDUCER,2 FLANGES,7 SECTIONS
burn, fit , assemble, weld
EAT057 any large U PIPE-HANGER fabricate set of 5
EAT048 90 deg. PIPE-HANGER fabricate "BRACKET&GUSSET set of 12

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

EAT 083 Weld 1" diameter steel gas pipe to 1" diameter steel/plastic transition coupler segment. (For transition to plastic line) welded in shop.
INCLUDES: position align, tack, rotate, weld, rotate.

000.04804 hours per JOB SETUP TIME

000.09731 hours per pipes to weld

EAT 039 Assemble and weld 1-1/2" pipe joints (pipe to other pipe or shape).
INCLUDES: mark pipe , all actions required to burn , align & tack weld & weld & remove slag with hammer.

000.10480 hours per JOB SETUP TIME

000.11370 hours per pipe joints to weld

EAT 043 Assemble and arc weld two flanges or one fitting in 4" pipe line (material handling excluded).
INCLUDES: covers level hammer position, all actions required fo welding as raise/lower hood, change rod etc. process arc time for tack weld & knock off scale with hammer.

000.78000 hours per sets to weld: flanges (2 per set) or fittin gs (1 per set)

EAT 040 Assemble and weld 4" I.D. pipe joints (pipe to other pipe or shape).
INCLUDES: all actions to burn pipe for fit and tack weld, weld remove slag with hammer.

000.10480 hours per JOB SETUP TIME

000.39330 hours per pipe joints to weld

EAT 045 Assemble and arc weld two flanges or one fitting into 6" pipe line.
INCLUDES: includes material handling, covers clamp unclamp, align level hammer position, all for welding/lower hood, change rod etc. process arc time for tack weld, weld & knock off slag with hammer.

001.16000 hours per sets to weld: flanges (2 per set) or fittin gs (1 per set)

EAT 041 Assemble and weld 6" I.D. pipe joints (pipe to other pipe or shape).
INCLUDES: all actions required to burn for fit, and tack weld, weld & remove slag with hammer.

000.10480 hours per JOB SETUP TIME

000.55550 hours per pipe joints to weld

EAT 053 Make up and arc weld pipe assembly, including two - 6" fittings; one - 6" to 4" reducer, two - 6" flanges; and two - 4" flanges.
INCLUDES: weld 2-4" flanges, weld 4"pipe to reducer, weld 2 fittings & 2 flanges into 6" line, material handling.

006.23000 hours per pipe assemblies to fabricate

EAT 047 Fabricate one arc welded "Y" branch for 6" I.D. pipe.
INCLUDES: layout templet and mark pipes, burn pipes, assemble and weld pipes, material handling.

001.65000 hours per y branches to fabricate

EAT 090 Cut chamfer on 6" diameter schedule 40 pipe using hand torch and grind off slag. Job has limited access (12" from ground, 18" from side, and 8" from top, and is reached by sliding on back under pipe). INCLUDES: to flat on back, scoot, chamfer with torch, finish grind, and back out & arise.

000.15388 hours per chamfers to cut

EAT 089 Cut 6" diameter schedule 40 pipe using hand torch. Access clearance is 12" from ground, 18" from side, and 8" from top, and must slide into position on back to make cut.
INCLUDES: to on back position in cramped area, scoot , mark cut hand burn pipe, reposition body scoot and arise.

000.15123 hours per cuts to make

EAT 091 Align and weld 6" diameter elbow to pipe (schedule 40) in place. Job is in close quarters (12" from ground, 18" from side, and access is made by sliding on back under pipe) Welder welds one joint.
INCLUDES: all actions required to assemble and weld pipe & to & from flat on back position , scoot, adjust body as required.

000.69103 hours per joints to weld

EAT 087 Fabricate and weld saddle patch on steam or water line (6" diameter schedule 40). Area is confined to 12" ground clearance with 18" side clearance and is reached by sliding under pipe. Pipe is dry.
INCLUDES: fabricate patch(EAT-58), to on back & scoot to addres task, weld out of reach, poor vision, exit to standing adjacent

000.55444 hours per patches to fabricate and weld

EAT 092 Replace 6" diameter elbow in schedule 40 pipe. Includes cutting out old, chamfering and installing new. Work accomplished lyin on back.
INCLUDES: cut & chamfer pipe 2 places with torch& grind in tigh area from back & arise, & all actions required to install new elbow & weld from flat on back position in tight area.

001.99228 hours per elbows to replace

EAT 099 Replace 3 feet of 6" diameter schedule 40 pipe. Job is in close quarters (12" from ground and 18" from side where work must be accomplished by sliding on back and welding from the underside of pipe. (Includes cutting out old and installing new).
INCLUDES: remove old section, mark, chamfer & grind 4 ends, material handling , align and weld in place using prone positio

000.01930 hours per JOB SETUP TIME

002.27823 hours per 3ft sections to replace

EAT 046 Burn and remove section of pipe, assemble and arc weld fitting into 6" pipe line.
INCLUDES: burn & remove section, material handling, clamp unclamp, align, level, hammer, position, all for welding as raise/ lower hood, change rod etc. process arc time for tack weld, weld & knock off slag with hammer.

001.31000 hours per fittings to install

EAT 042 Assemble and weld 8" I.D. pipe joints (pipe to other pipe or shape).
INCLUDES: all actions required to burn for fit & tack weld, weld & remove slag with hammer.

000.10480 hours per JOB SETUP TIME

001.51660 hours per pipe joints to weld

EAT 052 Burn and remove section of 8" - I.D. pipe and install arc welded fitting.
INCLUDES: burn & remove pipe section, assemble & weld fitting, material handling.

005.22000 hours per fittings to install

EAT 056 Burn and remove section of 8" pipe and arc weld one 8", one 8" to 6" reducer, two 6" flanges, seven 6" pipe sections, and connect to existing system.
INCLUDES: burn & remove section & install tee, assemble & weld 8" pipe, install 2-6" flanges, assemble & weld 8-6" pipe joints material handling.

012.86000 hours per sets to fabricate

EAT 057 Fabricate five - "U" type pipe hanger supports stop 4" I.D. pipe post. Bend 4" channels and arc weld to post with 4" x 1/2" bar across top. Weld 1/2" base plate to bottom of pipe.
INCLUDES: measure/mark pipe, channels & plate, burn base, top bar,& notch channel, cut 4" pipe, bend channel, drill base & to bar, position & weld also 4 gussets, channels &material handlin

012.09000 hours per hanger sets to fabricate

EAT 048 Fabricate 12 12" x 12" brackets or pipe hangers from 1/4" x 2" bar stock. Arc weld 1/4" gussets.
INCLUDES: shear bars, bend bars, drill bars and material handling.

002.37000 hours per hangers to fabricate

(fabricate, remove, & install) tin: STRAIGHT SECTIONS, TEE'S, and ELBOWS. Installation & removal includes ladder time.

TASK TIME STANDARDS LISTING

LAT115	fabricate	36" TEE	36"circumference	
LAT111	fabricate	36" SECTION	36"circumference	3 ft long
LAT113	fabricate	36" 5pc ELBOW	36"circumference	
LAT116	fabricate	60" TEE	60"circumference	
LAT112	fabricate	60" SECTION	60"circumference	3 ft long
LAT114	fabricate	60" 5pc ELBOW	60"circumference	
LAT121	remove	ELBOW	36"long& to 60"circumference	5 piece elbow
LAT122	remove	TEE	36"long& to 60"circumference	
LAT120	remove	SECTION	36"long& to 60"circumference	
LAT119	install	TEE	36"long to 60"circumference	
LAT117	install	SECTION	36"long to 60"circumference	
LAT118	install	ELBOW	36"long to 60"circumference	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 115 Fabricate sheet metal covering for 36" circumference insulated tee.
INCLUDES: layout for job, shear pieces from sheet, trim for bending, bend small sheets, roll pieces full circle, material handling.

000.94782 hours per JOB SETUP TIME

000.24884 hours per pipe covers to fabricate

LAT 111 Fabricate 3' long sections of sheet metal covering for 36" circumference insulated pipe.
INCLUDES: shear small sheets, bend small sheets, roll pieces full circle, material handling.

000.27944 hours per JOB SETUP TIME

000.07726 hours per pipe covers to fabricate

LAT 113 Fabricate five-piece sheet metal covering for 36" circumference insulated elbow.
INCLUDES: layout for job, shear pieces, trim pieces for bending bend small sheets, roll pieces full circle, material handling.

000.62246 hours per JOB SETUP TIME

000.37810 hours per pipe covers to fabricate

LAT 116 Fabricate sheet metal covering for 60" circumference insulated tee.
INCLUDES: layout for job 2 layouts, shear pieces, trim for bending, bend sheets, roll pieces full circle, material handling.

000.94782 hours per JOB SETUP TIME

000.28782 hours per pipe covers to fabricate

LAT 112 Fabricate 3ft long sections of sheet metal covering for 60" circumference insulated pipe.
INCLUDES: shear small sheets , bend small sheets, roll pieces full circle, material handling.

000.27944 hours per JOB SETUP TIME

000.07886 hours per pipe covers to fabricate

LAT 114 Fabricate five-piece sheet metal covering for 60" circumference insulated elbow.
INCLUDES: layout for job , shear pieces from sheet, trim pieces for bending, bend small sheets, roll pieces full circle, material handling.

000.62246 hours per JOB SETUP TIME

000.46810 hours per pipe covers to fabricate

LAT 121 Remove "5 section" sheet metal covering from insulated pipe elbow. Use ladder.
INCLUDES: setup & move ascend descend ladder, remove sheetmetal screws, remove sheetmetal covering, material handling.

000.36495 hours per pipe covers to remove

LAT 122 Remove sheet metal covering from insulated pipe tee.
INCLUDES: setup & move ascend descend ladder, remove sheetmetal screws, remove sheetmetal covering, material handling.

000.23853 hours per pipe covers to remove

LAT 120 Remove 3ft long sections of sheet metal covering from insulated pipe. Use ladder.
INCLUDES: setup & move ascend descend ladder, remove sheetmetal screws, remove sheetmetal covering, material handling.

000.08051 hours per pipe to remove

LAT 119 Install sheet metal covers on insulated pipe tee. Use ladder.
INCLUDES: setup & move ascend descend ladder, position tee covering, secure sections for drilling using wires, drill & install screws, remove wires, material handling.

000.64158 hours per pipe covers to install

LAT 117 Install 3ft long section of metal covering on insulated pipe. Use ladder.
INCLUDES: setup & move ascend descend, position metal covering, secure section for drilling using tie wires, drill holes & install screws, material handling.

000.23645 hours per pipe covers to install

LAT 118 Install sheet metal covers on insulated pipe elbows, 5 section cover. Use ladder.
INCLUDES: setup & move assend decend ladder, position elbow covering, secure sections for drilling using 20 tie wires, drill holes & install screws, remove wires, material handling.

001.01942 hours per pipe covers to install

ROOFING fabricate/ install/ remove / replace - COMPONENTS as
Flashing,roof caps,corrugated metal,eave drip,etc.

All flashing is fabricated in 10ft sections. Installation of all drip strips, gravel stops, flashing is for 1ft to 10ft sections and ladder time is included.

TASK TIME STANDARDS LISTING

LAT124	fabricate	ROOFING-COMPONENT	CAP FLASHING PARAPET WALL FLASHING	10ft long 28ga
LAT129	fabricate	ROOFING-COMPONENT	CHINA ROOF CAP	6"-12"vent pipe
LAT130	fabricate	ROOFING-COMPONENT	CHINA ROOF CAP	12"-18"vent pipe
LAT126	fabricate	ROOFING-COMPONENT	PITCH POCKET	8"x8"
LAT128	fabricate	ROOFING-COMPONENT	ROOF JACK	square to round transition solder
LAT127	fabricate	ROOFING-COMPONENT	ROOF VENT JACK	sloping/flat roof
LAT125	fabricate	ROOFING-COMPONENT	STOP EAVE STRIP	10ft long 28ga
LAT131	fabricate	ROOFING-COMPONENT	VALLEY CLEATS	10 ea.set 1"x3"..22ga
LAT123	fabricate	ROOFING-COMPONENT	VALLEY FLASHING	10ft long 28ga .
LAT133	remove	ROOFING-COMPONENT	GRAVEL STOP/EAVE DRIP STOP	1ft to 10 ft sections*incl ladder hr
LAT136	replace	ROOFING-COMPONENT	roofing CAP-CORRUGATED METAL	1 to 10 ft sections*incl ladder hr
LAT134	replace	ROOFING-COMPONENT	GRAVEL STOP/EAVE DRIP STOP	1 to 10 ft sections*incl ladder hr
LAT135	install	ROOFING-COMPONENT	roofing CAP-CORRUGATED METAL	1 to 10 ft section
LAT139	install	ROOFING-COMPONENT	PITCH POCKETS	
LAT138	install	ROOFING-COMPOMENT	ROOF&SIDING-CORRUGATED METAL	26"x10 ft
LAT132	install	ROOFING-COMPONENT	GRAVEL STOP or EAVE DRIP STRIP	*L
LAT137	install	ROOFING-COMPONENT	VALLEY FLASHING using metal	clips,nails,solder
LAT140	install	ROOFING-COMPONENT	WALL FLASHING-PARAPET	1 ft to 10 ft pc.

LAT 124 Fabricate 10ft sections of cap flashing, 28 guage, for 12" parapet wall.
INCLUDES: simple layout, shear large sheet, notch for bends, bend to form cap and seam, material handling.

000.42349 hours per JOB SETUP TIME

000.14669 hours per cap flashing to fabricate

LAT 129 Fabricate china roofing caps 24 gauge, cover 6" to 12" vent pipes; solder seams. Angle brackets previously fabricated.
INCLUDES: simple layout, & from templet, shear sheet, roll, solder seam, punch brackets position & rivet to cap , material handling.

000.40556 hours per JOB SETUP TIME

000.60823 hours per caps to fabricate

LAT 130 Fabricate china roofing caps, 24 gauge, cover 12" to 18" vent pipes; solder seams; angle brackets previously fabricated.
INCLUDES: average layout, layout from templet, shear sheet roll & solder, punch bracket holes position & rivet to cap, material handling.

000.98918 hours per JOB SETUP TIME

000.63996 hours per caps to fabricate

LAT 126 Fabricate pitch pockets, 8" x 8" x 6", with 20" x 20" base. Use Pittsburgh lock seam.
INCLUDES: simple layout, layout from templet, shear large sheet shear small sheets, form pittsburg lock seam, trim sheetmetal notch, bend for forming boxes, close lock seam, solder box to base sheet, material handling.

000.51079 hours per JOB SETUP TIME

000.52095 hours per pockets to fabricate

LAT 128 Fabricate roof jack square to round transition for flat or sloping roof. Fasten with lock seam and sheet metal screws. Other seams are soldered.
INCLUDES: initial layout, shear pieces, cut out hole, layout from templet, position pieces & assemble, drill & install screw , crimp , make bends, roll hammer tabs & solder, matl. handling

002.12299 hours per JOB SETUP TIME

002.85413 hours per jacks to fabricate

LAT 127 Fabricate roof vent jacks (identical size) for sloping or flat roof.
INCLUDES: average layout, shear large sheet, shear medium sheet layout from templet, cut out holes and sleeves, bend single loc , roll to form sleeves, close lock seam, crimp bottom edge of sleeve, assemble & solder parts, material handling.

001.28299 hours per JOB SETUP TIME

000.58893 hours per jacks to fabricate

LAT 125 Fabricate pieces of gravel stop or eave strip, 28 gauge, 10ft long.
INCLUDES: simple layout, shear large sheet, bend for forming, material handling.

000.42349 hours per JOB SETUP TIME

000.11369 hours per gravel stop to fabricate

LAT 131 Fabricate sets of metal cleats (10 cleats per set), 22 gauge, 1" x 3", to use as valley metal fasteners.
INCLUDES: measure mark, bend form cleats, material handling.

000.09813 hours per JOB SETUP TIME

000.25331 hours per metal cleat sets to fabricate

LAT 123 Fabricate pieces valley metal, 28 gauge, 10ft long.
INCLUDES: simple layout, bend, material handling.

000.42349 hours per JOB SETUP TIME

000.10346 hours per valley to fabricate

LAT 133 Remove sections of gravel stop or eave drip. Use ladder. Sections are 1ft to 10ft long.
INCLUDES: setup & move ascend descend ladder, remove nails, material handling.

000.11343 hours per gravel stops to remove

LAT 136 Remove and replace sections of corrugated metal cap, 1ft to 10ft long. Use ladder.
INCLUDES: setup & move ascend descend ladder, remove nails from cap, remove & position corrugated cap, punch holes for nails, drive nails, material handling.

000.40731 hours per caps to install

LAT 134 Remove and replace sections of gravel stop or eave drip (metal work only). Sections are 1ft to 10ft long.
INCLUDES: setup & ascend descend ladder, remove nails, remove & position metal, install nails, material handling.

000.22846 hours per gravel stops to replace

LAT 135 Install sections of corrugated metal cap. Use ladder. Sections are 1ft to 10ft long.
INCLUDES: setup & move ascend descend ladder, position corrugated cap, punch holes for nails, drive nails, material handling.

000.27262 hours per caps to install

LAT 139 Install pitch pockets on roof. Set in roofing cement, and coat over after nailing with roofing cement. Use ladder.
INCLUDES: setup & move ascend descend ladder, spread roofing cement, position pockets & install nail edges, material handlin .

000.17572 hours per pitch pockets to install

LAT 138 Install 26" x 10ft panels of corrugated metal on roof or siding. Use ladder.
INCLUDES: setup & move ascend descend ladder, position metal and install nails, material handling.

000.09467 hours per corrugated panels to install

LAT 132 Install sections of gravel stop or eave drip. Sections are 1ft to 10ft long. Use ladder.
INCLUDES: setup & move ascend descend ladder, position metal & nail, material handling.

000.13427 hours per gravel stops to install

LAT 137 Install sections of valley metal with metal clips. Nail and solder lap joints. Use ladder. Sections are 1ft to 10ft long.
INCLUDES: setup & move ascend descend ladder, layout for valley metal, install valley clips & valley & solder joints, material handling.

000.76549 hours per valley sections to install

LAT 140 Install sections of parapet wall flashing, top edge secured in reglet, lead edge and reglet filled with roofing cement. Use ladder. Sections are 1ft to 10ft long.
INCLUDES: setup & move ascend descend ladder, position metal in reglet, position and drive wedges, fill reglet with roofing compound, material handling.

000.35926 hours per wall flashing sections to install

SHELF assemble ANY PREFAB Shelf Assembly or Cabinet Assembly
(6 basic design category & 16 option task)

Task are presented to afford the opportunity to assemble with prefab components any of the many shelf and cabinet options now available, thereby generating the specific time for a specific type shelf or cabinet. If this is more detail than required for your needs then general types of shelves/cabinets are presented in task LAT-208,LAT-209,& LAT-211 to LAT-215 which are independent shelf units/units that do not share adjacent components as sides,backs & post.LAT-216 is for additional units that are dependent/share components & is used with LAT-212. The same applies to LAT-217 & LAT-215. There are 16 other component task that can be combined to be used to describe 1000's of designs/configerations of shelves or cabinets.

THE USE OF LAT-213& LAT-215 or LAT-215& LAT-217 WILL USUALLY MEET YOUR NEEDS (these are THE MOST OFTEN USED TYPE UNITS)

LAT-199 thru LAT-207 & LAT-210 are the option component task.

TASK TIME STANDARDS LISTING

LAT208	INDEPENDENT& OPEN TYPE to 12"x36"x87":includes 4 post,7 shelves, 1 back brace, 4 side braces, SCREW TYPE					
LAT209	INDEDENDENT& OPEN TYPE to 12"x36"x87":includes 4 post,7 shelves, 1 back brace, 4 side braces, CLIP TYPE					
LAT211	INDEPENDENT& OPEN TYPE any size you Select NUMBER of all SCREW and NUT fasteners					
LAT212	INDEPENDENT& OPEN TYPE ANY SIZE			you Select NUMBER of Components, CLIP SHELF INSERTS		
LAT213	INDEPENDENT& CLOSED TYPE ANY SIZE			you Select NUMBER OF Components, all SCREW AND NUT fasteners		
LAT214	INDEPENDENT& CLOSED TYPE ANY SIZE			you Select NUMBER OF Components, CLIP SHELF INSERTS		
LAT215	INDEPENDENT& CLOSED TYPE ANY SIZE			you Select NUMBER OF Components, including BIN FRONTS & DRAWERS		
LAT216	DEPENDENT & CLOSED TYPE ANY SIZE			you Select NUMBER OF Components, use for additions to LAT-212		
LAT217	DEPENDENT & CLOSED TYPE ANY SIZE			you Select NUMBER OF Components, use for additions to LAT-215		
LAT191	assemble	SHELF	COMPONENT	UPRIGHT POST	using hand tools	OPTION
LAT192	assemble	SHELF	COMPONENT	SHELF WITH SCREWS & NUTS	using hand tools	OPTION
LAT193	assemble	SHELF	COMPONENT	SHELF WITH INSERT CLIPS	using hand tools	OPTION
LAT194	assemble	SHELF	COMPONENT	SIDE BRACE usually 4 per unit		

	OPTION				using hand tools
LAT195	assemble	SHELF	COMPONENT	BACK BRACE	usually 1 per unit
	OPTION				using hand tools
LAT196	assemble	SHELF	COMPONENT	SIDE PANEL	
	OPTION				using hand tools
LAT197	assemble	SHELF	COMPONENT	BACK PANEL	
	OPTION				using hand tools
LAT198	assemble	SHELF	COMPONENT	BASESTRIP	(kickplate)
	OPTION				using hand tools
LAT199	assemble	SHELF	COMPONENT	SHELF REINFORCEMENT	
	OPTION				
LAT200	assemble	SHELF	COMPONENT	BIN FRONT	used to prevent items
	OPTION				from sliding off
LAT201	assemble	SHELF	COMPONENT	SHELF DIVIDER	assemble with
	OPTION				2 screws & nuts
LAT202	assemble	SHELF	COMPONENT	SHELF DRAWER	modular unit with
	OPTION				6 bolts
LAT203	assemble	SHELF	COMPONENT	DRAWER DIVIDER	
	OPTION				with 2 bolts
LAT204	assemble	SHELF	COMPONENT	SWING DOORS	6 bolts with
	OPTION				2 door unit front
LAT205	assemble	SHELF	COMPONENT	ANGLE SWAYS	
	OPTION				with 4 bolts

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 208 ASSEMBLE PREFAB SHELF WITH OPEN SIDES AND BACK PANEL(Indep.unit)
(unit size= 87"high, depth 12"to 24", width 36"to 48")
INCLUDED ARE : 4 post, 7 shelves, 1 back brace, 4 side braces-
all parts are installed with screws & nuts. NOTE: THIS IS A
INDEPENDENT UNIT= STRUCTURED UNITS THAT DO NOT SHARE ADJACENT
UNITS COMPONENTS, AS SIDES OR BACKS; THOSE SHARING= DEPENDENT

000.58061 hours per UNIT

LAT 209 ASSEMBLE PREFAB..SHELF-WITH NO SIDE OR BACK PANELS (Indep.unit)
SHELVES INSTALLED WITH CLIPS
(UNIT SIZE= 87"high, depth 12"to 24", width 36"to 48")
Included are : 4 post, 7 shelves, 1 backbrace, shelves are
installed with clips except for top & bottom shelf.
(METHOD APPLIES TO A NON PRODUCTION LINE ENVIROMENT & HAND TOOL

000.43983 hours per UNIT

LAT 211 ASSEMBLE ANY INDEPENDENT SHELF UNIT, WITH OPEN SIDES & BACK,
ALL SCREW FASTENED SHELVES.. ANY SIZE PREFAB UNIT UP TO..
87"H,24"D,48"W. INCLUDED IS: 1 BACKBRACE ; 4 POST ; 4 SIDE
BRACES; N SHELVES; & 1 BASE STRIP. ALSO N SHELF REINFORCEMENTS.
NOTE: SHELF REINFORCEMENT LAT-199 is normally required with
shelves larger than 12"x36", add 2 per shelf.

000.31839 hours per UNIT

000.04855 hours per SHELF

000.01573 hours per REINFORCEMENT

LAT 212 ASSEMBLE INDEPENDENT SHELF UNITS WITH OPEN SIDES, BACK & CLIP FASTENED SHELVES...ANY SIZE PREFAB UNIT, up to 87"H,24"D,48"W. INCLUDED IS: 1 BACK BRACE, 4 POST, 4 SIDE BRACE, N SHELVES, 1 BASE STRIP.
NOTE: SHELF REINFORCEMENT LAT-199 IS REQUIRED WITH SHELVES LARGER THAN 12"x 36", ADD 2 PER SHELF

000.41549 hours per UNIT

000.01939 hours per SHELF

000.01573 hours per REINFORCEMENT

LAT 213 ASSEMBLE INDEPENDENT SHELF UNIT, WITH SIDES, BACK PANEL & ALL SCREW FASTENED SHELVES. ANY SIZE PREFAB UNIT up to 87"H,24"D, 48"W. INCLUDED IS : 1 BACK PANEL, 4 POST, 2 SIDE PANELS, N SHELVES, 1 BASE STRIP.
NOTE: SHELF REINFORCEMENT LAT-199 REQUIRED WITH SHELVES LARGER THAN 12"x 36", ADD 2 PER SHELF.

000.40848 hours per UNIT

000.04855 hours per SHELF

000.01573 hours per REINFORCEMENT

LAT 214 ASSEMBLE INDEPENDENT SHELF UNITS WITH SIDES & BACK PANEL WITH CLIP FASTENED SHELVES..ANY SIZE PREFAB UNIT UP TO 87"H, 24"D, 48"W. INCLUDED IS : 1 BACK PANEL, 2 SIDE PANELS, 4 POST, 1 BASE STRIP, N SHELVES, & N SHELF REINFORCEMENTS.
NOTE: SHELF REINFORCEMENT LAT-199 REQUIRED WITH SHELVES LARGER THAN 12"x36", ADD 2 PER SHELF.

000.50558 hours per UNIT

000.01939 hours per SHELF

000.01573 hours per REINFORCEMENT

LAT 215 ASSEMBLE INDEPENDENT SHELF UNITS WITH SIDES & BACK PANELS, SHELF DIVIDERS, BIN FRONTS, AND BIN DRAWERS..ANY SIZE PREFAB UNIT UP TO 87"H,24"D,48"W. INCLUDED IS LAT-213 COMPONENTS + : N BIN FRONTS, N BIN DRAWERS=LAT-210.
NOTE : SHELF REINFORCEMENT LAT-199 REQUIRED WITH SHELVES LARGER THAN 12"X36", ADD 2 PER SHELF

000.40848 hours per UNIT

000.04855 hours per SHELF

000.01573 hours per REINFORCEMENT

000.03541 hours per BIN FRONT

000.00184 hours per BIN DRAWER

LAT 216 ASSEMBLE ADDITIONAL DEPENDENT SHELF SEGMENT TO TASK LAT-212, TASK ADDED FOR ADDITIONS WHEN UNITS SHARE SIDES & BACKS. 1 ST.UNIT=LAT-212,+ ADDITIONAL UNITS = N(LAT-216). UNIT HAS OPEN SIDES & BACK, ALL SCREW FASTENED SHELVES.

000.12755 hours per UNIT

000.04855 hours per SHELF

000.01573 hours per REINFORCEMENT

LAT 217 ASSEMBLE ADDITIONAL DEPENDENT SHELF SEGMENT TO TASK LAT-215, THIS TASK IS ADDED FOR ADDITIONS WHEN UNITS SHARE SIDES & BACKS 1ST.UNIT= LAT-215,+ ADDITIONAL= N(LAT-217). THIS UNIT HAS CLOSE SIDES, BACK & ALL SCREW FASTENED SHELVES.

000.22688 hours per UNIT

000.04855 hours per SHELF

000.01573 hours per REINFORCEMENT

000.03541 hours per BIN FRONT

000.00184 hours per BIN DRAWER

LAT 191 ASSEMBLE PREFAB SHELVES/CABINET..UPRIGHT POST--TO OTHER COMPONENTS ----------
(METHOD APPLIES TO ASSEMBLY IN A NON PRODUCTION ENVIROMENT, USING HAND TOOLS ONLY)
NOTE: (SCREW AND NUT ATTACHMENT & ALIGN IS INCLUDED UNDER SHELF INSTALLATION TASK) INCLUDES: unwrap & handling

000.00794 hours per POST

LAT 192 ASSEMBLE PREFAB SHELVES/CABINET..SHELF-WITH SCREWS & NUTS Installation to other components ----------
INCLUDES: unwrap, pickup position & aside, align, clamp, bolt.
(METHOD APPLIES TO NON PRODUCTION ENVIROMENT & HAND TOOLS)
NOTE : 2 REINFORCEMENT PER SHELF MUST BE USED ON WIDTH 36" to 48", ALSO 3 BACK BRACES (1 BACK, 2 SIDES)

000.04855 hours per SHELF

LAT 193 ASSEMBLE PREFAB SHELVES/CABINET..ASSEMBLE SHELF--TO OTHER COMPONENTS WITH -- INSERT CLIPS , NOT NUTS AND BOLTS

(METHOD APPLIES TO A NON PRODUCTION LINE ENVIROMENT, AND USE HAND TOOLS ONLY) NOTE : NORMALLY THIS IS ONLY USED ON SHELVES 12" AND LESS.

000.01939 hours per SHELF

LAT 194 ASSEMBLE PREFAB SHELVES/CABINET SIDE BRACE--TO OTHER COMPONENTS

(METHOD APPLIES TO A NON PRODUCTION ENVIROMENT, HAND TOOLS ONLY
NOTE: USED TO A MAX. SHELF DEPTH OF 12"
INCLUDES: unwrap, material handling, drift pin align, clamp & install bolts in side brace.

000.04261 hours per SIDEBRACE

LAT 195 ASSEMBLE PREFAB SHELVES/CABINET..BACK BRACE--ASSEMBLE TO OTHER COMPONENTS

(METHOD APPLIES TO A NON PRODUCTION ENVIROMENT,HAND TOOLS ONLY)
NOTE: shelves deeper than 12" use 2 back braces on sides
INCLUDES: unwrap, pickup position and aside, drift pin align, clamp and install bolts.

000.06297 hours per BACKBRACE

LAT 196 ASSEMBLE PREFAB SHELVES/CABINET..SIDE PANEL--TO OTHER COMPONENTS

(METHOD APPLIES TO A NON PRODUCTION ENVIROMENT, HAND TOOLS ONLY
NOTE: WHEN USED SIDE BRACES OR BACK BRACES ON SIDES ARE NOT REQUIRED TO STABALIZE THE UNIT.
INCLUDES: unwrap,pickup position aside, drift pin align, & bolt

000.09933 hours per SIDEPANEL

LAT 197 ASSEMBLE PREFAB SHELVES/CABINET..BACK PANEL--TO OTHER COMPONENTS

(METHOD APPLIES TO A NON PRODUCTION ENVIROMENT, HAND TOOLS ONLY
NOTE: BACK BRACE IS NOT REQUIRED IF A BACK PANEL IS USED.
INCLUDES: unwrap, pick up position & aside, drift pin align, clamp, install bolts.

000.12484 hours per BACKPANEL

LAT 198 ASSEMBLE PREFAB SHELVES/CABINET..BASESTRIP-(kick plate) TO OTHER COMPONENTS

(METHOD APPLIES TO A NON PRODUCTION ENVIROMENT, HAND TOOLS ONLY
NOTE: MOST UNITS USE THIS COMPONENT TO BLOCK DIRT AND DEBRIS FROM GETTING UNDER UNIT. INCLUDES: unwrap, pick up, position, aside, drift pin align, clamp & install bolts.

000.05322 hours per BASESTRIP

LAT 199 ASSEMBLE PREFAB SHELVES/CABINET..SHELF REINFORCEMENT--for heavy loads-TO OTHER COMPONENTS.

(METHOD APPLIES TO A NON PRODUCTION ENVIROMENT, HAND TOOLS ONLY
NOTE: REINFORCEMENT IS USUALLY REQUIRED WITH SHELVES 36" to 48" AND WHERE HEAVY LOADS ARE EXPECTED. INCLUDES: unwrap,pick up position & aside (slide into position).

000.01573 hours per REINFORCEMENT

LAT 200 ASSEMBLE PREFAB SHELVES/CABINETS..BIN FRONT--TO OTHER COMPONENTS

(METHOD APPLIES TO A NON PRODUCTION LINE ENVIROMENT AND USE HAN TOOLS ONLY)
NOTE: ADDS FLANGE TO PREVENT ITEMS FROM SLIDING OFF. INCLUDES: unwrap, pick up position & aside, drift pin align clamp &instal

000.14380 hours per BINFRONT

LAT 201 ASSEMBLE PREFAB SHELVES/CABINET..SHELF DIVIDER--TO OTHER COMPONENTS.

(METHOD APPLIES TO A NON PRODUCTION LINE ENVIROMENT, AND USE HAND TOOLS ONLY) NOTE : 2 SCREWS & NUTS PER DIVIDER.
INCLUDES: unwrap, pick up position & aside, sliding fit component.

000.00736 hours per DIVIDER

LAT 202 ASSEMBLE PREFAB SHELVES/CABINET..SHELF DRAWER--TO OTHER COMPONENTS.

(METHOD APPLIES TO A NON PRODUCTION LINE ENVIROMENT, AND USE HAND TOOLS ONLY) 1 piece modular unit, 6 bolts install.
INCLUDES: unwrap, pick up position & aside, drift pin align, clamp & install 6 bolts.

000.14380 hours per DRAWER

LAT 203 ASSEMBLE PREFAB SHELVES/CABINETS..MODULAR DRAWER DIVIDERS TO OTHER COMPONENTS.

(METHOD APPLIES TO A NON PRODUCTION LINE ENVIROMENT, AND USE HAND TOOLS ONLY)
INCLUDES: unwrap, pick up position & aside, drift pin align, clamp, install 2 bolts.

000.03471 hours per DIVIDER

LAT 204 ASSEMBLE PREFAB SHELVES/CABINETS..SWING DOORS--TO OTHER COMPONENTS

(METHOD APPLIES TO A NON PRODUCTION ENVIROMENT, AND USE HAND TOOLS ONLY)
NOTE: represents 2 door unit front.INCLUDES: unwrap, pick up position & aside drift pin align, clamp & install 6 bolts.

000.09763 hours per DOOR

LAT 205 ASSEMBLE PREFAB SHELVES/CABINETS..ANGLE SWAYS--TO SHELVES

(L shaped brace used to replace back sway to permit access to shelf from front and rear. Use 6 per unit)
(METHOD APPLIES TO A NON PRODUCTION ENVIROMENT, & USE HAND TOOL ONLY) INCLUDES: unwrap, pick up position & aside,install 24 bol

000.21872 hours per UNIT

SCREEN fabricate/ install Window guards, Bars, Security screens, Bar-mesh

Security screens, bars, expanded metal screens,(fabricate/ install/remove?)

TASK TIME STANDARDS LISTING

EAT093	fabricate	BAR MESH	36"x48"	security screen aromory
EAT094	fabricate	BAR MESH	42"x66"	security screen aromory
EAT085	fabricate	BAR MESH	51"x88"	security screen aromory
EAT082	fabricate	EXPANDED METAL	ALL SIZES	security screen
EAT109	fabricate	WOVEN WIRE	ALL SIZES	security screen germamyobs
EAT077	fabricate	FORMED BARS	36"x72"	security screen
LAT079	install	EXPANDED METAL	2ft x 3ft	security screen
LAT080	install	EXPANDED METAL	3ft x 6ft	security screen
EAT095	install	BAR MESH	36"x48"	security screen concrete bldg.& no ladder reqd.
EAT096	install	BAR MESH	36"x48"	security screen concrete bldg/2men& ladder reqd.
EAT097	install	BAR MESH	42"x66"	security screen concrete bldg.&no ladders reqd.
EAT098	install	BAR MESH	42"x66"	security screen 5ft to ground concrete bldg/2men& ladder reqd.
EAT086	install	BAR MESH	51"x88"	3ft to ground concrete bldg/2men& ladders reqd.
LAT081	install	SWING TYPE	3ft x6 ft	EXPANDED METAL over wood window

EAT 093 Fabricate 3ftx 4ft armory security screen (bar-mesh).Screen made from 1-1/2" x 1-1/2" x 1/4" angle and 1/2" diameter steel bars spaced 6" apart around perimeter. Weld all intersections with (2) 3/8" welds. Also includes 6 clips.
INCLUDES: shear rods, angles, sheet, punch holes on clips, weld tabs, layout & weld table stops, assemble components & weld.

000.12307 hours per JOB SETUP TIME

001.05291 hours per bar screens to fabricate

EAT 094 Fabricate (3-1/2ftx 5-1/2ft) bar-mesh security screen.Screen is made from 1-1/2" x 1-1/2" x 1/4" angle and 1/2" diameter steel bar spaced 6" apart and welded at all intersections by (2) 3/8" welds. 6 external clips welded to assembly.
INCLUDES: shear rods, angle, clips, punch, bend, weld, layout table stops & weld, position and weld all components.

000.12307 hours per JOB SETUP TIME

001.23523 hours per bar screens to fabricate

EAT 085 Fabricate armory security screen (51" x 88" bar-mesh).
Screen make from 1-1/2" x 1/4" angle and 1/2" diameter steel bar, and is fastened by welding; bars are spaced on 6" centers and welded at all intersections by 2 - 3/8" welds; (6) clips welded to sides; Assemble. 1/2" diameter holes around perimete
INCLUDES: shear, punch, bend, walk, assemble & weld components.

000.12307 hours per JOB SETUP TIME

001.43920 hours per bar screens to fabricate

EAT 082 Fabricate any size (expanded metal) window security screen made of 1-1/2" x 1/4" mild steel bar stock and expanded metal screen fastened by welding. 1/2" diameter holes located each foot of perimeter.
INCLUDES: measure & mark, shear, cut, center punch & punch, deburr, tack weld 2.3 tacks ea.ft., & weld frame corners.

000.29234 hours per screens to fabricate

000.01806 hours per perimeter feet of screen to fabricate

EAT 109 fabricate WOVEN WIRE SECURITY SCREEN-any size
up to 2.4m X 2.4m, 4mm wire,4mm X 5cm X5cm angle iron frame.
ENG= 8'x8'frame, 3/16"x2"x2" angle iron & T center angle.
INCLUDES: build jig, band saw cut components to fit, metalic ar weld components in jig, cut woven wire with bolt cutters to fit
GERMANY OBSERVATIONS---PERIM M= welded/cut meters

000.66393 hours per screen

000.17249 hours per hanger

000.75669 hours per jig made

000.08320 hours per perimeter meter

EAT 077 Fabricate six 3ft x 6ft window guards. For each guard arc weld 10 1/2" round bars to two 1/4" x 1-1/2" flat bars.
INCLUDES: measure & mark & shear , bend and drill, assemble and weld, material handling.

010.95000 hours per window guards

LAT 079 Install expanded metal guards, 3ft x 2ft over wood framed openings.
INCLUDES: measure for screw locations, setup & move ascend descend ladder, drill & install screws, material handling.

000.00883 hours per JOB SETUP TIME

000.42150 hours per metal guards to install

LAT 080 Install "fixed" type expanded metal guards, 3ft x 6ft , over wood framed windows.
INCLUDES: layout for bracket locatiuons, position brackets dril and install screws, position section, setup & move ascend descend ladder, material handling.

000.24680 hours per JOB SETUP TIME

000.33152 hours per metal guards to install

EAT 095 Install 3ftx 4ft armory security bar screen(6" mesh) on concrete building. Includes drilling (10) 1/2" diameter holes and installation of anchor studs and tack welded. Ladder not required to set bars, window bottom less than 37" from ground.
INCLUDES: material handling, up down & setup near far ladder, install align drill & weld, screen, anchors & studs.

000.01510 hours per JOB SETUP TIME

000.58533 hours per bar screens to install

EAT 096 Install 3ftx 4ft armory security bar screen; 6" mesh on concrete building.
Attachment design: 1/2" diameter holes around perimeter for attachment, 10 anchor studs tack welded to prevent tampering. (window bottom 5' from ground, ladders required. 2 men required
INCLUDES: 22 min. 2nd man assist by hold ladder.& install scree

000.01510 hours per JOB SETUP TIME

000.95533 hours per bar screens to install

EAT 097 Install (3-1/2ft x 5-1/2ft) bar-mesh security screen on concrete building. Includes drilling (14) 1/2" diameter holes and installation of anchor studs and tack welded nuts. Ladder not required to set bars. Window bottom less than 37" from ground.
INCLUDES: up down, setup near far ladder, material handling, align & install screen, drill install & weld anchors & bolts.

000.01510 hours per JOB SETUP TIME

000.74601 hours per bar screens to install

EAT 098 Install (3-1/2ftx 5-1/2ft) bar-mesh security screen; 6" mesh; on concrete building. Includes drilling 14 - 1/2" diameter holes and installing anchors and tack welding nuts. (window bottom is 5ft from ground and requires 2 men and ladders to set).
INCLUDES: 34 min.2nd.man assist holds ladder. & install screen EAT-97.

000.01510 hours per JOB SETUP TIME

001.30601 hours per bar screens to install

EAT 086 Install 2 armory security bar screens (51" x 88") on concrete building. Screen fastened by 14 anchor studs, tack welded and center segment welded in (4) places. Ladder required. 2 men.
INCLUDES: up down move near & far ladder, material handling, align & insert screen, drill, install, adjust, anchors & bolts, weld bolts & extra center section angle, & move ladder to next.

000.13520 hours per JOB SETUP TIME

001.86547 hours per bar screens set to install

LAT 081 Install 3ft x 6ft swing type expanded metal guards over wood frame windows.
INCLUDES: layout for hinge & hasp locations, position hasp , sections, drill & install screws, setup & move ascend descend ladder, material handling.

000.24680 hours per JOB SETUP TIME

000.28950 hours per metal guards to install

Times are not included for layout, removal or reposition of steel plates.
Times for burning plates are average for any thickness or in the case of rods and simular shapes, average for any diameter.

TASK TIME STANDARDS LISTING

EAT003	hand	BURN ROD	any dia.
EAT001	hand	BURN PLATE STEEL	average any thickness
EAT002	machine	BURN PLATE STEEL	Line or Circle; (average thk)
EAT004	grind	BURNED PLATE STEEL	gas cut EDGE, for smooth finish

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

EAT 003 Burn off rods, bolts, nuts or similar shape item, average for any diameter.
INCLUDES: machine setup adjustments dawn protective ware and burn and remove slag.

000.00965 hours per JOB SETUP TIME

000.00412 hours per rods to burn

EAT 001 Manual burn and remove slag for steel plate, average for any thickness (per setup)
INCLUDES: handling times and layouts of plate are not included, removing slag is included in the burn per foot time.

000.00965 hours per JOB SETUP TIME

000.02680 hours per linear feet of plate to burn

EAT 002 Machine burn straight line or circular, and remove slag for steel plate, average for any thickness (per setup)
INCLUDES: handling times and layout of plate are not included, removing slag is included in the burn per foot time.

000.08293 hours per JOB SETUP TIME

000.02680 hours per linear feet of plate to burn

EAT 004 Grind gas cut edge of steel plate for very smooth finish.
INCLUDES: does not include handling of plate, includes burning , removing slag in per foot time, job set up includes all necessary protective gear and neccessary equipment adjustments.

000.06702 hours per JOB SETUP TIME

000.03360 hours per lin. ft. of plate to grind

ELECTRIC ARC STICK WELDING_ plates, components, and fabricate assemblies in fixtures and without fixtures, also weld times for plate per inch.
def. FOR ASSY.& WELD: S = small = piece to 10 lbs.
M = medium = piece >10 lbs.- <60 lbs.
L = large = piece >60 lbs.
INCLUDES - remove slag and grinding of weld seams.

TASK TIME STANDARDS LISTING

EAT024	WELD per inch	STEEL PLATE		... to 1/4"thk.	& remove slag no assemlby	1 pass
EAT029	WELD per inch	STEEL PLATE		1/4"to 1/2"thk.	& remove slag no assembly	2 passes
EAT034	WELD per inch	STEEL PLATE		.... >1/2"thk.	& remove slag no assembly	3 passes
EAT027	ASSY.&WELD	NOfixture	to 1/4"thk.	S...piece ,		1 pass per piece, per inch
EAT028	ASSY.&WELD	NOfixture	to 1/4"thk.	M-L.piece ,		1 passes per piece, per inch
EAT032	ASSY.&WELD	NOfixture	1/4"-1/2"thk.	S...piece ,		2 passes per piece, per inch
EAT033	ASSY.&WELD	NOfixture	1/4"-1/2"thk.	M-L.piece ,		2 passes per piece, per inch
EAT037	ASSY.&WELD	NOfixture	>1/2"thk.	S...piece ,		3 passes per piece, per inch
EAT038	ASSY.&WELD	NOfixture	>1/2"thk.	M-L.piece ,		3 passes per piece, per inch
EAT025	ASSY.&WELD	INFIXTURE	to 1/4"thk.	S...piece ,		1 pass per piece, per inch
EAT026	ASSY.&WELD	INFIXTURE	to 1/4"thk.	M-L.piece ,		1 pass per piece, per inch
EAT030	ASSY.&WELD	INFIXTURE	1/4"-1/2"thk.	S...piece ,		2 passes per piece, per inch
EAT031	ASSY.&WELD	INFIXTURE	1/4"-1/2"thk.	M-L.piece ,		2 passes per piece, per inch
EAT035	ASSY.&WELD	INFIXTURE	>1/2"thk.	S...piece ,		3 passes per piece, per inch
EAT036	ASSY.&WELD	INFIXTURE	>1/2"thk.	M-L.piece ,		3 passes per piece, per inch

EAT 024 Arc weld and remove slag, steel plate up to 1/4" thick (one pass)
INCLUDES: tack weld, obtain & position parts & deburr as required, raise & lower hood, get holder and aside , change rod , weld & knock off scale with hammer.

000.00672 hours per inches to weld

EAT 029 Arc weld and remove slag, steel plate 1/4" to 1/2" thick (2 passes
INCLUDES: raise and lower hood, get holder & aside, change rod, knock off slag with hammer, & tack weld & weld process time.

000.02360 hours per inches to weld

EAT 034 Arc weld and remove slag, steel plate over 1/2" thick (three passes)
INCLUDES: limited clamp & hammer position, all welding actions as raise & lower hood, change rod etc. arc process time for tac & weld & hammer remove slag for 3 passes.

000.05540 hours per inches to weld

EAT 027 Assemble and weld small piece of steel plate up to 1/4" thick. (1 pass) INCLUDES: move near & far/up/down ladder, additional walking to get tools, obtain & position part, deburr turn assembly around, install remove, c clamp, hammer clamp, ge aside vise grip, square align, level, mark with rule, tack weld arc process time for tack and weld, & remove slag with hammer.

000.03350 hours per pieces to position and weld

000.00730 hours per inches to weld on positioned parts

EAT 028 Assemble and weld medium or large piece of steel plate up to 1/4" thick.(1 pass
INCLUDES: up/down, move near & far ladder, walk to get tools, obtain position part , hammer, clamp, unclamp, square, level, use plumb bob from ladder twice, tack weld, obtain position par , all actions to weld, weld & rmv slag.

000.06870 hours per pieces to position and weld

000.00730 hours per inches to weld on positioned parts

EAT 032 Assemble and weld small piece of steel plate 1/4" to 1/2" thick.
INCLUDES: up/down, move near & far ladder, walk to get tools, obtain position part, remove burrs, turn assembly, hammer, clam unclamp, get & use vice grip, square, level, rule & mark, all actions for welding as raise hood, change rod, process arc time for tack & weld & knock off scale with hammer 1st. & 2nd. pass.

000.03350 hours per pieces to position and weld

000.02360 hours per inches to weld on positioned part

EAT 033 Assemble and weld medium or large piece of steel plate 1/4" to 1/2" thick.(2 passes

INCLUDES: use plumb bob , move ladded near & far, clamp, hammer , align with square , position end, all actions for welding as raise & lower hood, change rod, process arc time for tack & weld & knock off scale with hammer 1st.& 2nd. pass .

000.06870 hours per pieces to position and weld

000.02360 hours per inches to weld on positioned pieces

EAT 037 Assemble and weld small piece of steel plate over 1/2" thick. (3 passes

INCLUDES: obtain & position part, remove burrs, turn assembly hammer, clamp unclamp, get/use vise grips, square, level, rule & mark, or up/down move near far ladder, all action as raise & lower hood etc.& arc process time for tack, weld & remove slag.

000.03350 hours per piece to position and weld

000.05540 hours per inches to weld

EAT 038 Assemble and weld medium or large piece of steel plate over 1/2" thick.(3 passes

INCLUDES: use plumb bob,up/down move ladder near & far, positio end, all welding actions as raise & lower hood, change rod etc. tack & arc process time 3/16 rod, knock off scale with hammer

000.06870 hours per piece to position and weld

000.05540 hours per inches to weld on piece positioned

EAT 025 Position small piece in fixture and weld steel plate up to 1/4" thick. (1 pass) (Small = to 10 lbs

INCLUDES: obtain small piece and position to/in/& out fixture removing burrs as required, tack weld , raise & lower hood, get & aside & change rods, weld & knock off slag with hammer.

000.00559 hours per pieces to position and weld

000.00672 hours per inches to weld on positioned part

EAT 026 Position medium or large piece in fixture and weld steel plate up to 1/4" thick. (Piece > 10 lbs.) (1 pass

INCLUDES: obtain medium or large part & position to/in/out fixture, removing burrs, tack weld, raise/lower hood, get holde & aside, change rods, weld & knock off scale with hammer.

000.01191 hours per pieces to position and weld

000.00672 hours per inches to weld on positioned part

EAT 030 Position small piece in fixture and weld steel plate 1/4" to 1/2" thick.(2 passes

INCLUDES: obtain part, position on assembly, all actions for welding as raise and lower hood, change rod, process arc time for tack & weld 1st.& 2nd. pass, knock off scale with hammer 1st. & 2nd. pass.

000.00560 hours per pieces to position and weld

000.02360 hours per inches to weld on positioned parts

EAT 031 Position medium or large piece in fixture and weld steel plate 1/4" to 1/2" thick.(2 passes

INCLUDES: obtain & position part on assembly, deburr, position part end, install/remove c clamp & vice grip, hammer to positio , all welding actions as raise & lower hood, change rod etc. tack & arc process time 3/16 rod, knock off scale with hammer.

000.01180 hours per pieces to position and weld

000.02360 hours per inches to weld on positioned parts

EAT 035 Position small piece in fixture and weld steel plate over 1/2" thick.(3 passes

INCLUDES: obtain & position part, deburr, install/remove c clam & vise grip, hammer clamped piece to position, all welding actions as raise & lower hood, change rod etc. arc process time for tack & weld 3/16 rod, knock off scale with hammer.

000.00560 hours per piece to position and weld

000.05540 hours per inches to weld

EAT 036 Position medium or large piece in fixture and weld steel plate over 1/2" thick.(3 passes

INCLUDES: obtain & position on assembly, deburr, position of part, all actions for welding as raise & lower hood, change rod process arc time for tack and weld & knock off scale with hamme for 1st., 2nd., 3rd. passes.

000.01180 hours per piece to position and weld

000.05540 hours per inches to weld

FABRICATE ASSEMBLE AND WELD ITEMS /COMPONENTS where cutting and welding is usually the greatest work content.

TASK TIME STANDARDS LISTING

EAT044	ANCHOR PLATE	set of 4	-6"x6"x1/4"thk.plate, welded to pipe or angle leg.
EAT058	ANGLE IRON TO OTHER SHAPE OR PLATE		2"x2"x1/4" angle iron
EAT063	BRACKETS	set of 8	triangular shelf support 1.5"x1.5"angle miter & weld
EAT102	CLIP MOUNTING-	4mm x 5.84cm x 15.25cm	with 14mm hole
EAT059	CHANNEL SHAPE TO OTHER SHAPE OR PLATE		6"channel
EAT051	CLOTHESLINE POLE	set of 6 ea,	8 ft 4 ft crossarm & drill 4-3/8"holes
EAT072	CONVEYOR STANDS	set of 3	- 30"x18"x24" design resembles tirerack
EAT064	DOOR BUCK		frame(6"channel) for masonry opening
EAT054	GUARD RAIL		3 sections removable 1 1/2" double pipe guard rail,4 stanchions
EAT049	GUARD RAIL		1 section of 1 1/2" double guard rail 2 stanchions
EAT050	GUARD RAIL		3 sections 1 1/2" double pipe guard rail with 4 stanchions
EAT060	GUSSET & WELD TO OTHER	set of 4	6"x6"x1/4" material handling excluded
EAT069	LADDER FOR POOL or PARAPET		steel 3/4" round bar & 2 1/2"x3/8" flat bar
EAT073	LADDER FOR ROOF ACCESS		26 ft long with 20 ft long back guard
EAT080	PIPE BRIDGE FOR STREET CROSSING		seetask for details
EAT071	RACK TIRE	set of 2	A frame design ends with 2 rectangular frames between
EAT078	RACK PIPE	triple A design ends,cross braced	between,3horns ea.side ea.A
EAT075	RACK PIPE	set of 2	ladder type design see task description
EAT079	RACK TREE PIPE RACK	set of 3	set in concrete 6 ft above ground. See task description
EAT066	RACK WALL	set of 7	RESTRAINT for 2 GAS BOTTLES bar,double 1/2 circle & chain

EAT061 RECTANGULAR FRAME shear, miter, assemble, weld, angle to make frame to 40lbs.of 2"angle

EAT107 RECTANGULAR FRAME 79"x82", T angle in center 3/16"x2"x2" metalic arc weld in jig germanyobs

EAT001 SIGNS & STANDS set of 9 round metal base stanchion& braces,rectangular sign

EAT065 SPLICE I BEAM 10"I BEAM with 3/8"thk.splice

:

EAT068 TABLE 48"x48"x36" (gussets & floor plates

EAT070 TANK, BOX DESIGN 1/4"thk. 72"x72"x48"with drain & overflow

EAT076 TANK CYLINDRICAL 7 ft 10"dia.4 ft high

EAT081 INSTALL/weld - BUMPER PAD TO LOADING DOCK 2 ft x6"x6" bumper pad

EAT088 REPAIR/weld TANK hot water (laying on back) fabricate &weld 4"x5"saddle patch. (see task)

EAT103 WELD JIG for FRAME 70"x 84"of angle & center TEE (layout &clips welded to large plate)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

EAT 044 Cut and punch four holes in each of four 6" x 6" x 1/4" anchor plates and arc weld to ends of angles, or pipes. Material handling excluded.
INCLUDES: shear plates, punch holes, weld anchor plates.

000.52000 hours per sets of holes to punch (4 holes per set)

EAT 058 Fit, assemble and arc weld one 2" x 2" x 1/4" angle to other shape or plate. Material handling excluded.
INCLUDES: burn & assemble angle or pipe , fit align tack weld, clamp hammer & weld & remove scale with hammer.

000.16000 hours per angle assembly to fabricate

EAT 063 Fabricate and arc weld eight brackets, using 1-1/2" x 1-1/2" x 3/16" angles. Punch four 3/16" holes in each bracket.
INCLUDES: shear angles (8 pieces 48 cuts), punch 32 holes, assemble & weld angles (16 pieces, 160"), material handling.

002.11000 hours per brackets to fabricate

EAT 102 fabricate MOUNTING CLIP (4mm X 6cm X 15cm with drilled
(4mm X 6cm X 15cm steel with drilled 14mm hole)
INCLUDES: band saw cut bar stock, drill 1 hole & deburr edges & hole

000.13113 hours per clip

EAT 059 Assemble and arc weld one end of 6" channel to other shape or plate. Material handling excluded.
INCLUDES: clamp, align, square, hammer, position end, tack weld obtain position & deburr and all actions as raise & lower hood change rod etc., arc process time for tack & weld & remove scal with hammer.

000.20000 hours per channel assembly to fabricate

EAT 051 Fabricate six clothesline poles from 2-1/2" - I.D. pipe. Burn out one end of 8ft-0" long upright and arc weld to 4'-0" long crossarm. Drill four - 3/8" holes in each crossarm.
INCLUDES: cut pipe with power hacksaw, burn up right end, assemble pipes, weld pipes & material handling.

004.32000 hours per clothesline poles to fabricate

EAT 072 Fabricate one arc welded conveyor stands, 30" x 18" x 24" high; braces each end; gussets top corner each side; 4" x 4" x 1/4" base plates each leg. Use 1-1/2" x 1-1/2" x 1/4" angle for frame.
INCLUDES: layout, mark, shear, assemble, weld, shear, assemble weld gussets, cut and punch & material handling.

007.51000 hours per conveyor stands to fabricate

EAT 064 Fabricate one door buck for masonry opening, including power hacksaw, drill and arc weld three 6" channels.
INCLUDES: measure & mark, power hacksaw, drill holes in channel , cut & weld in stops, assemble and weld channels, material handling.

002.13000 hours per door bucks to fabricate

EAT 054 Fabricate "three section" removable double 1-1/2" pipe guard rail with four stanchions.
INCLUDES: fabricate left side guard rail, fabricate right side guard rail, layout central portion, cut pipe, grind ends, tack weld to left& right rails, weld all around and remove slag.side design same as EAT-49

006.89000 hours per sets to fabricate

EAT 049 Fabricate one section of 1-1/2" double guard rail, two stanchions, including anchor plates (material handling excluded
INCLUDES: layout pipes, cut or burn pipes, grind ends & chamfer layout anchor plates, shear or burn plates, tack weld & square up rails, drill anchor plates, tack weld and weld all component

002.64000 hours per sections of guard rails to fabricate

EAT 050 Fabricate "three section" double 1-1/2" pipe guard rail with four stanchions and four anchor plates.
INCLUDES: measure & mark pipes, burn pipe fits, assemble & weld cut drill & weld anchor plates, material handling.

002.98000 hours per sets of guard rail to fabricate (3 per set)

EAT 060 Shear, assemble into place and arc weld four 6" x 6" x 1/4" gussets. Material handling excluded.
INCLUDES: shear gussets from flat bar, assemble & weld gussets (3 inches welded every 6 inches) 24" total welded.

000.29000 hours per gusset set to install

EAT 069 Fabricate one parapet or swimming pool type steel ladder, using arc weld construction. Use 2-1/2" x 3/8" flat bar for side rails, anchor braces and plates, and 3/4" round bar for rungs. Burn overhang arches from 3/8" plates.
INCLUDES: layout components shear, burn , grind, drill, bend, position weld and material handling.

005.45000 hours per pool ladders to fabricate

EAT 073 Fabricate 26ft long roof access ladder from 2-1/2" x 3/8" flat, and 3/4" round bar; 20' long back guard from 2" x 1/4" flat bar Arc weld entire structure.
INCLUDES: measure & mark side rails, back guard stringers & hoo , layout back, shear drill, bend, straighten position component to assemble & weld , grind welds & material handling.

008.58000 hours per roof ladders to fabricate

EAT 080 Fabricate pipe bridge for street crossing. Use 3" I.D. pipe for A-frame supports each end. Span consists of girder formed from two 10" channels capped by 1/4" plate. Brace with 2" x 2" x 5/16" angles.
INCLUDES: ladder work, layout, mark, mark, power hacksaw, drill burn, assemble, weld, bolt, A-frame, channels, top plate & etc.

019.62000 hours per pipe bridges to fabricate

EAT 071 Fabricate two "box A frame" type, "two level" tire racks, 8ft x 4ft bases 7ft high. Use 2" x 1-1/2" x 3/8" angles for bottom frame and bottom tire supports, and 2" x 2" x 1/4" angles for all other members.
INCLUDES: layout, mark, shear, burn, fit, tack weld, position, and weld, material handling.

008.32000 hours per tire racks to fabricate

EAT 078 Fabricate (arc weld) triple "A" frame pipe rack using 3" x 3" x 3/8" angles for frames and supports arms, 2" x 2" x 1/4" for cross bracing, and 3/4" round bar for separators.
INCLUDES: measure & mark, power hacksaw, shear, angles & separators, weld separators to bars, arms, frame angles, assemble & braces, A frames burn & weld, and material handling.

016.94000 hours per pipe racks to fabricate

EAT 075 Fabricate two pipe rack frames. Each frame includes arc weld pair of 4" x 4" x 1/2" upright angles to 3/4" base plate, and three 3" x 3" x 3/8" angle cross arms to uprights.
INCLUDES: layout & mark angles, plate, power hacksaw, burn, drill, position and weld and weld, & material handling.

011.54000 hours per pipe racks to fabricate

EAT 079 Fabricate three tree-type stationary pipe racks to be set in concrete with 6ft extending above ground. Arc weld eight 3" x 3 x 3/8" and six 2" x 2" x 1/4" angles on each side of 8" I-beam.
INCLUDES: measure & mark I-BEAM and angles, burn & power hacksa , shear separator bar, position & weld bars & angles, & materia handling.

018.04000 hours per pipe racks to fabricate

EAT 066 Fabricate seven double-unit gas cylinder racks. Bend 1/4" x 1-1/2" bars half circle and weld to 1/4" x 3" bar.
INCLUDES: shear & drill flat bars, hand burn ends of 1 1/2"bar 28 cuts, roll bars 14 pieces, weld brackets to back plate, material handling.

004.35000 hours per gas cylinder racks to fabricate

EAT 061 Shear four 2" x 2" x 1/4" angles, assemble and weld in eight places. Material handling excluded.
INCLUDES: shear angles 8 cuts, assemble and weld angles 4 piece & 56" welded.

000.66000 hours per angle set to fabricate

EAT 107 ASSEMBLE & WELD FRAME OF ANGLE IRON IN JIG
2.4m X 2.5m FRAME, 4mm X 5cm X 5cm ANGLE
OR 79"x 82" FRAME, 3/16"x 2" x2" ANGLE
iron and T angle in center of jig to assemble.
ALSO INCLUDES: remove & grind welds
GERMANY OBSERVATIONS

000.33425 hours per frame assembled

EAT 001 Manual burn and remove slag for steel plate, average for any thickness (per setup)
INCLUDES: handling times and layouts of plate are not included, removing slag is included in the burn per foot time.

000.00965 hours per JOB SETUP TIME

000.02680 hours per linear feet of plate to burn

EAT 065 Assemble and arc weld 10" I-beam with two 3/8" splice plates.
INCLUDES: burn splice plates, position I-BEAM using chain hoist position splice plates, 100" weld I-BEAM & 2 splice plates, material handling.

003.37000 hours per splices to install

EAT 068 Fabricate steel table, 4ftx 4ftx 3ft high, using 2" x 2" x 1/4" angles for frame and legs, and 1/4" plate for gussets, floor plates and top. Use arc weld construction.
INCLUDES: measure & mark angles and top, shear angles 90 degree , shear angles 45 degrees, machine burn table top, assemble frame angles,gussets,floor plates,top plates & weld, & handling

004.44000 hours per steel tables to fabricate

EAT 070 Fabricate rectangular steel tank, 6ftx 6ftx 4ft high from 1/4" plate. Install two 2" fittings for inlet and outlet. Use arc weld construction.
INCLUDES: layout, mark, locate,shear, fittings, bottom & sides, drill for fittings, weld all parts & material handling.

006.51000 hours per steel tanks to fabricate

EAT 076 Fabricate cylindrical tank, 7ft 10" diameter x 4ft high; machine burn and arc weld two 3/8" plates for bottom. Roll three 1/4" plates and arc weld for sides; install two 2" I.D. pipes for inlet and outlet.
INCLUDES: measure & mark, machine burn, hand burn, grind, roll, weld , position assemble components & weld, material handling.

013.34000 hours per cylindrical tanks to fabricate

EAT 081 Install bumper to loading dock. Includes positioning and welding pad to existing loading dock steel channel. (Bumper pad is 2ft x 6" x 6" assembly with 2"x2"x6"x1/4" angle iron)
Assemblies are fastend by tackwelds and welds along angle external edges and 2-1"holes
INCLUDES: material handling, position & weld.

000.23120 hours per bumper pads to install

EAT 088 Repair 4" x 5" patch over hole in bottom of 500 gallon hot water tank. Welded in place lying on back (tank exposed and no insulation).
INCLUDES: 14 min. to drain tank, to flat on back, scoot & drag tools, tack & assemble & weld patch, (typical field situation for access to tanks) .

000.97444 hours per repairs to make

EAT 103 fabricate WELD JIG to assemble weld SECURITY SCREEN (2m X 2.085m) INCLUDES: layout on steel plate of frame & cut & tack weld 10 stops of angle iron. Also removing stops & grinding welds flush. Jig is 79"x82" for 4 side pieces angle iron & a center T piece of angle.
GERMAN OBSERVATIONS

000.75669 hours per JIG

WELD fabricate MISC. ALUMINUM COMPONENTS
assorted items: Cart,Cyl,Rack,etc.

Aluminum Assemblies; Weld, Fabricate, Assemble - Miscellaneous
Containers, Ladder, Sink, Tank, Trays ETC

TASK TIME STANDARDS LISTING

EAT019	CART PUSH	3"channel frame , 1/4"plate, 3/4" tube handle
EAT016	CYLINDERICAL CONTAINER	18"dia.x 24"high with cover & handle.11ga
EAT017	CYLINDERICAL CONTAINER SCRAP CAN	24"dia.x 30"high 3/8"dia.handles & beaded rim
EAT021	HOSE RACK (set of 10)	12"radius. 12ga
EAT013	LADDER FOR TRUCK	3" channel runners & steps 1/4"x2"bar hooks
EAT015	PHONE BOX	12"x12"x16" pier dog house type design
EAT018	SINK DEEP	20"x36"x24"tank 1"rim , 2"x2"x 3/16" angle legs
EAT014	TABLE-TOP	44"x92" -1/4"thk.top drill & bolt, weld corners
EAT022	TABLE	48"X96"x36"high 1/4"thk.top 2"X2"x3/16"angle frame/legs
EAT023	TANK-dip tank	4ft x6ft x4ft deep 3/16"thk.
EAT020	TRAYS set of 2	16"x24"x4" deep

EAT 019 Fabricate aluminum push cart; use 1/4" plate for platform, 3" channel for frame and 3/4" tube for handle; welded construction
INCLUDES: measure & mark cmoponents, saw channels & pipe, shear plates & pins, drill caster mounts & install, weld frame & platform, grind welds and material handling.

005.33177 hours per carts to fabricate

EAT 016 Fabricate (1) aluminum cylindrical container, 11 gauge, 18" diameter x 24" high, with cover and handle.
INCLUDES: layout , shear , notch , bend , assemble , drill, bol , preheat, weld , grind and material handling.

002.98611 hours per containers to fabricate

EAT 017 Fabricate (1) cylindrical aluminum scrap receiver, 11 gauge; 24" diameter x 30" high, with 3/8" diameter handles and beaded rim.
INCLUDES: layout, shear, cut disc, roll cylinder, cut handle rods roll bend & weld, weld and material handling.

004.06762 hours per receivers to fabricate

EAT 021 Fabricate (10) aluminum hose racks, 12 gauge, 12" radius; welded construction.
INCLUDES: layout rack, mark from pattern, shear, cut disk & flanges, punch holes, assemble & weld, grind edges, material handling.

006.10222 hours per sets of 10 to fabricate

EAT 013 Fabricate aluminum ladder for truck. Use 3" channel for runners and steps, and 1/4" x 2" bar for hooks.
INCLUDES: Measure & mark, saw , shear, bend, assemble and weld, material handling.

001.53071 hours per ladders to fabricate

EAT 015 Fabricate (1) telephone box, 16" x 12" x 12", for exterior mounting on wall, from 16 gauge aluminum.
INCLUDES: layout, shear large, shear small, notch, bend, drill and install rivets, and material handling.

001.84559 hours per telephone boxes to fabricate

EAT 018 Fabricate (1) deep sink, 20" x 36" x 24" deep, from 11 gauge aluminum; turn 1" x 1" rim all edges; use 2" x 2" x 3/16" angle for legs.
INCLUDES: layout, mark from templet, shear, punch, shear, bend rim, roll bottom, tack and weld joints and leg, grind welds, and material handling.

003.64306 hours per sinks to fabricate

EAT 014 Fabricate and install 1/4" aluminum top on alum. table, 44" x 92". Drill and bolt to frame, and weld corners.
INCLUDES: layout, shear, notch corners, bend edges, assemble top to corners, drill & bolt top to frame, preheat corners, wel corners, grind welds, and material handling.

002.09796 hours per tables to fabricate and install

EAT 022 Fabricate aluminum table, 4ft x 8ft x 3ft high; use 2" x 2" 3/16" angle frame with 1/4" top; welded construction.
INCLUDES: measure & mark, shear angles gussets and floor plates punch holes in plate & assemble, weld components & grind welds, & material handling.

006.85042 hours per tables to fabricate

EAT 023 Fabricate aluminum dip tank, 4ft x 6ft x 4ft high; use 3/16" materal; install outlet.
INCLUDES: measure and mark , shear sheets, assemble and weld sheets and outlet, drill holes from outlet , cut tube, grind welds, and material handling.

007.28703 hours per tanks to fabricate

EAT 020 Fabricate (2) handling trays, 16" x 28" x 4" deep, from 11 gauge aluminum; weld and grind all joints.
INCLUDES: layout trays , shear large and small sheets, mark fro templets & shear, bend edges, tack weld, weld joints & grind, material handling.

002.03131 hours per sets of 2 to fabricate

Formula task for welding aluminum components with and without fixture . TIG welding, also preheat and grinding of aluminum components and welds.
Assemble, clean surface, tack& weld, grind parts :
Weight classification: S = small = plate or part = to 5 lbs.
M = medium = plate or part = 5 to 50 lbs
L = large = plate or part = over 50 lbs
Change & adjust electrode are included as part of task times.

TASK TIME STANDARDS LISTING

EAT010	preheat	ALUMINUM	to 1/4"thk.	per linear foot
EAT011	grind	aluminum WELD	to 1/8"thk.plate	per job/piece/foot
EAT012	grind	aluminum WELD	1/8"to 1/4"thk.plate	per job/piece/foot
EAT007	assemble&weld	S...piece	IN fixture,	per piece/inch
EAT005	assemble&weld	S...piece	NO fixture, in shop	per piece/inch
EAT008	assemble&weld	M-L piece	IN FIXTURE,	per piece/inch
EAT009	assemble&weld	any size	NO fixture,	per piece/inch
EAT006	assemble&weld	M-L piece	IN FIXTURE, in shop	per piece/inch

EAT 010 Preheat aluminum surfaces 1/4" thick.
INCLUDES: process time based on time studies. This task is used to suppliment times with weldments of larger sizes where cracking will occur if preheating and post heating is not practiced. Trade experience dictates the use of this applicatio .

000.07320 hours per linear feet of Aluminum to Preheat

EAT 011 Grind welded aluminum surfaces up to 1/8" thick.
NOTE: (normal design specs do not require tig welds to be ground)
INCLUDES: set up- get & return store, adjust service grinder, use safty gear, pieces to grind- material handling & clamp as required, LF- time studies process time.

000.06702 hours per JOB SETUP TIME

000.00135 hours per pieces to grind

000.00170 hours per total LF. to grind

EAT 012 Grind welded aluminum surfaces 1/8" to 1/4" thick.
NOTE:(normal design specs do not require tig welds to be ground
INCLUDES: setup- get return store adjust & service grinder, use safty gear, pieces to grind- material handling & clamp as required, LF- time studies process time.

000.06702 hours per JOB SETUP TIME

000.00135 hours per pieces to grind

000.00590 hours per total LF. to grind

EAT 007 Position and weld small piece of aluminum in fixture. (Small = to 5 lbs)
INCLUDES: material handling based on weight classification, clean part with steel wool or wire brush, position, tack and weld as required, change and adjust electrode as required, clamp unclamp and use protective gear.

000.00715 hours per pieces to position and weld

000.01305 hours per inches to position and weld

EAT 005 Assemble and weld small piece of aluminum (in shop) without fixture. (Small = to 5 lbs)
INCLUDES: material handling based on weight classifications, clean part with steel wool or wire brush, position tack & weld, normal amount of preheat & grind as required, change and adjust electrode as required, clamp unclamp & use protective gear.

000.02482 hours per aluminum pieces to assemble and weld

000.01305 hours per inches to weld

EAT 008 Position and weld medium or large piece of aluminum in a fixture (Small = to 5 lbs)
INCLUDES: material handling based on weight classification, clean part with steel wool or wire brush, position , tack and weld, normal amount of preheat and grind as required, change an adjust electrode, clamp un clamp & use protective gear.

000.01451 hours per pieces to position and weld

000.01305 hours per inches to position and weld

EAT 009 Average time to position and weld any size piece of aluminum, with or without a fixture.
INCLUDES: all actions required to assemble and remove small , medium or large , in fixture or in field . This is four task combined and occurences each at 1/4th. of this task. All the work required in the preceding task leveled for general purpose

000.02190 hours per pieces to position and weld

000.01350 hours per inches to position and weld

EAT 006 Assemble and weld medium or large piece of aluminum (in shop) with fixture. (Small = to 5 lbs)
INCLUDES: material handling based on weight classification, clean part with steel wool or wire brush, position, tack & weld normal amount of preheat & grind as required, change & adjust, electrode as required, clamp unclamp & use protective gear.

000.03785 hours per pieces to assemble and weld

000.01305 hours per inches to assemble and weld

Supplemental Machine Task BLACKSMITH LAYOUT
straight edge rule & chalk layout

This is uncomplicated field/shop layout. Usually consisting of : read drawing ; obtain part and folding rule and return; measure and remeasure; scribe or chalk line ; center punch brake lines for 4 BENDS FOR A SIMPLE--LAYOUT , SMALL TO MEDIUM PART and (8 BENDS FOR A COMPLEX-LAYOUT, SMALL TO MEDIUM PART).

Def: 1. small to medium = 0-60 lbs. not more than 1" thick or 6 foot long.

2. large.....= 60-120 lbs. and < 2"thick and < 12 foot long.

3. simple--layout = flat or square part which *CONTINUED* have no more than 4 bends, 2 eyes or multible combinations.

4. complex..... = flat or square with no more than eight bends, 2 eyes or 2 half circles or combinations.

TASK TIME STANDARDS LISTING

LAT177	SIMPLE	small to med.	FLAT or SQUARE	0-60# & < 1"thk. & < 6ft long
LAT178	SIMPLE	small to med.	ROUND	0-60# & < 1"thk. & < 6ft long
LAT179	COMPLEX	small to med.	FLAT or SQUARE	0-60# & < 1"thk. & < 6ft long
LAT180	COMPLEX	small to med.	ROUND	0-60# & < 1"thk. & < 6ft long
LAT181	SIMPLE	large part	FLAT ro SQUARE	60-120#, 2"thick or less,<12ft long
LAT182	SIMPLE	large part	ROUND	60-120#, 2"thick or less,<12ft long
LAT183	COMPLEX	large part	FLAT or SQUARE	60-120#, 2"thick :or less,<12'long
LAT184	COMPLEX	large part	ROUND	60-120#, 2"thick or less,<12ft long

LAT 177 Simple layout : small to medium part, flat or square.
example: brackets,hangers and bolts which require no more than bends, 2 eyes or multiple combinations.
(small-medium = 0-60 lbs. and < 1" thick. and < 6 ft long)
(large-= 60-120 lbs. and < 2"thick and < 12' long)
BLACKSMITH TYPE LAYOUT

000.11643 hours per JOB

LAT 178 Simple layout : small to medium part , round .
examples: brackets, hangers and bolts which require no more tha four bends, 2 eyes or multible combinations.
(small to medium = 0-60 lbs. & not more than 1" thick or 6'long
BLACKSMITH TYPE LAYOUT

000.09154 hours per JOB

LAT 179 Complex layout: small to medium part, flat or square.
example: brackets,hangers and bolts which require no more than bends, 2 eyes, 2 half circles or any combinations there of.
(small to medium = 0-60 lbs.& not more than 1" thick or 6' long
BLACKSMITH TYPE LAYOUT

000.21453 hours per JOB

LAT 180 Complex layout: small to medium part, round.
(0-60 lbs in weight not more than 1" thick or 6'long
example of complex: brackets, hangers and bolts which require n more than 8 bends, 2 eyes, 2 half circles or any combinations thereof.
BLACKSMITH TYPE LAYOUT

000.16891 hours per JOB

LAT 181 Simple layout : large part , flat or square .
large = 60-120 lbs.not more than 2" thick or 12ft long.
example of simple : brackets, hangers and bolts that require no more than 4 bends, 2 eyes or multiple combinations as steamline hangers.
BLACKSMITH TYPE LAYOUT

000.12533 hours per JOB

LAT 182 Simple layout : large part, round.
large = 60-120 lbs. not more than 2" thick or 12ft long, usuall 2 men required to handle .
example simple = brackets, hangers, bolts required no more than 4 bends, 2 eyes or multiple combinations.
BLACKSMITH TYPE LAYOUT

000.10045 hours per JOB

LAT 183 Complex layout : large part, flat or square.
large = 60-120 lbs. not more than 2" thick or 12ft long.
complex = brackets, hangers, & bolts which require no more than 8 bends, 2 eyes, 2 half circles or any combination there of.
BLACKSMITH TYPE LAYOUT

000.19939 hours per JOB

LAT 184 Complex layout: large part, round.
large = 60-120 lbs not more than 2" thick or 12ft long usually requires 2 men to handle.
complex = brackets, hangers and bolt eyes which require no more than 8 bends, 2 eyes, 2 half circles or any combination thereof
BLACKSMITH TYPE LAYOUT

000.18156 hours per JOB

These task are based on three material classes : (most used = S)
S = small = to 40 lbs. , to 16 sq.ft., REQ. 1 man to handle
M = medium = > 40-80 lbs., or > 16 sq.ft., REQ. 2 men
L = large.....REQUIRES POWER BRAKE
(ajust brake for thichness change is averaged 1 for
10 bends) OPERATION = Bend metal sheets up to 1/8"x4'x8' ferrous
& nonferrous , power or hand brake, 30 to 120 degrees. Operator
picks up the sheet, positions it in brake, bends it, checks the
angle and lays it aside. All sheets are located on or beside
work bench.

TASK TIME STANDARDS LISTING

LAT249	SMALL	SHEET	One bend (1st.bend)
LAT250	MEDIUM	SHEET	One bend (1st.bend)
LAT251	SMALL	SHEET	(N bends = any number) includes 1st.bend & additional
LAT252	MEDIUM	SHEET	(N bends = any number) includes 1st.bend & additional

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 249 BEND SMALL SHEET ONE TIME ON HAND LEAF BRAKE
small = to 40lbs., to 16 sq.ft., 1 man required.
INCLUDES: adjust for thickness change 1 per 10 brakes, get
and aside and brake , check , and adjust break angle.

000.09813 hours per thickness change

000.01876 hours per first bend

LAT 250 BEND MEDIUM SHEET ONE TIME IN HAND LEAF BRAKE
medium = 40 to 80 lbs. bulk requires 2 men
INCLUDES: adjust for change in material thickness 1 per
10 brakes, get from table and aside, check and adjust bend angl

000.09813 hours per thickness change

000.03110 hours per first bend

LAT 251 MAKE TWO OR MORE BENDS, SMALL SHEET IN A HAND LEAF BRAKE
small = to 40 lbs., to 16 sq.ft., 1 man required
INCLUDES: 1st. bend and time for each successive bend of
turn , position , clamp , bend , check; also get and aside.

000.09813 hours per thichness change

000.01876 hours per first bend per sheet

000.01023 hours per additional bend per sheet

LAT 252 MADE TWO OR MORE BEND OF MEDIUM SHEET ON A HAND LEAF BRAKE
medium = 40 to 80 lbs. bulk requires 2 men
INCLUDES: time for first and additional bends - turn , position , clamp , bend , and check ; also get and aside.

000.09813 hours per thickness change

000.03110 hours per first bend per sheet

000.01932 hours per additional bend per sheet

Supplemental Machine Task USE HAND DRILL in steel, alum.& cast iron and INSTALL FASTENER

DRILL AND FASTEN ...with nuts and bolt ...in steel , aluminum, and cast iron.
CLASS OF MATERIALS =..... to 3/16"deep- 3/16"dia.bolt
DRILL THICKNESS & INSTL.BOLT = 1/4"- 1/2" deep- 1/2" dia bolt
N1 deep - N2 = number bolts
S = small = to 40 lbs.- 16 sq.ft.
M = medium = > 40 lbs.- 80 lbs.
L = large = > 80 lbs.
OPERATION = position peices, clamp parts inplace if required, drill holes, and install bolts.

TASK TIME STANDARDS LISTING

LAT265	DRILL to 3/16"deep & install	3/16"dia.BOLT	IN STEEL
LAT266	DRILL to 3/16"deep & install	3/16"dia.BOLT	IN ALUMINUM
LAT267	DRILL to 3/16"deep & install	3/16"dia.BOLT	IN CAST IRON
LAT268	DRILL 1/4"-1/2"deep & install	1/2"dia.BOLT	IN STEEL
LAT269	DRILL 1/4"-1/2"deep & install	1/2"dia.BOLT	IN ALUMINUM
LAT270	DRILL 1/4"-1/2"deep & install	1/2"dia.BOLT	IN CAST IRON
LAT271	DRILL N1"deep & N2 qty.& INSTALL	#12 sheetmetal screw	IN STEEL
LAT272	DRILL N1"deep & N2 qty.& INSTALL	#12 sheetmetal screw	IN ALUM.
LAT273	DRILL N1"deep & N2 qty.& INSTALL	#12 sheetmetal screw	IN CAST

LAT 265 DRILL, STEEL PART: .....(UP TO ..3/16" DEEP HOLES),
AND INSTALL , ...(UP TO ..3/16" DEEP BOLTS)
INCLUDES: obtain and return portable drill & power screw driver, drill hole & obtain & install/tighten bolt & nut.

000.02772 hours per job

000.01671 hours per bolt

LAT 266 DRILL BRASS/ALUMINUM PART:..(UP TO 3/16"DEEP HOLES)
AND INSTALL .....(UP TO 3/16"DIA. BOLTS)
INCLUDES: obtain & return portable drill & power screwdriver, drill hole & install/tighten bolt & nut.

000.02772 hours per job

000.01206 hours per bolt

LAT 267 DRILL CAST IRON OR BRONZE PARTS:..(UP TO 3/16" DEEP HOLE)
AND INSTALL .....(UP TO 3/16"DIA.BOLT)
INCLUDES: obtain and return portable drill and power screwdriver drill hole and obtain and install/tighten bolt and nut.

000.02772 hours per job

000.01322 hours per bolt

LAT 268 DRILL, STEEL PART:.....(1/4"-1/2"DEEP HOLES),
AND INSTALL,.....(UP TO 1/2"DIA.BOLTS)
INCLUDES: obtain and return portable drill and power screwdriver drill hole and obtain and install /tighten bolt and nut.

000.02772 hours per job

000.02830 hours per bolt

LAT 269 DRILL BRASS/ALUMINUM :.....(1/4"-1/2" DEEP HOLES),
AND INSTALL,.....(UP TO 1/2"DIA.BOLTS)
INCLUDES: obtain & return portable drill & power screwdriver, drill hole & obtain & install/tighten bolt and nut.

000.02772 hours per job

000.01590 hours per bolt

LAT 270 DRILL CAST IRON, BRONZE PART:.....(1/4"-1/2" DEEP HOLES)
AND INSTALL,.....(UP TO 1/2"DIA.BOLTS)
INCLUDES: obtain & return portable drill & power screwdriver, drill hole and install /tighten bolt and nut.

000.02772 hours per job

000.01900 hours per bolt

LAT 271 DRILL STEEL PART ...N1" DEEP HOLES, AND INSTALL, ...N2 SCREWS (up to size no.12)
INCLUDES: obtain & return portable drill & power screwdriver, drill hole & install/tighten screw.

000.02772 hours per job

000.01071 hours per screw

000.03710 hours per inch of screw depth

LAT 272 DRILL BRASS/ALUMINUM PART:... N1" DEEP HOLE ,
AND INSTALL ..... N2 SCREWS UP TO SIZE NO.12
INCLUDES: obtain & return portable drill & power screwdriver, drill hole & obtain and install/tighten screw.

000.02772 hours per job

000.01071 hours per screw

000.01230 hours per inch screw installed

LAT 273 DRILL CAST IRON OR BRONZE:..... (N1" DEEP HOLES),
AND INSTALL,..... (N2 SCREWS) up to size no.12 sheetmetal screw.
INCLUDES: obtain & return portable drill & power screwdriver, drill hole & obtain & install / tighten screw.

000.02772 hours per job

000.01071 hours per screw

000.01850 hours per inch screw installed

Supplemental Machine Task USE NIBBLER/PULLMAX MACHINE for cutting sheet rock

Pullmax machine is used to cut and form louvers or nibble cut straight lines, contours or circles. Tasks relate set up time per job, per piece, and per foot, occurence as applicable. This task is for use in a maintainance enviroment only.

TASK TIME STANDARDS LISTING

LAT260	cut material	STRAIGHT OR IRREGULAR	per job/piece/ft.
LAT261	cut material	CIRCULAR	per job/piece/ft.
LAT262	cut one piece	STRAIGHT OR IRREGULAR	up to 6 ft. long
LAT263	cut one piece	CIRCULAR	up to 6 ft. length
LAT264	cut one piece	CIRCULAR	7 to 12 ft. length

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 260 CUT material STRAIGHT or irregular , per job..on nibbler/pulmax. (includes machine set up, material handling and preparation, and cut time per foot)

000.00556 hours per machine set up

000.00934 hours per piece material handling

000.00650 hours per foot process time

LAT 261 CUT material, CIRCULAR, per job ..on nibbler/pullmax machine. (includes set up, handling of material, and per foot cut time.)

000.01587 hours per machine set up

000.07747 hours per piece material handling

000.00650 hours per foot process time

LAT 262 CUT one piece, STRAIGHT OR IRREGULAR, up to 6 ft. of cut on nibbler/pullmax machine.
(includes set up, material handling , & 6 ft.nibbling machine process time.)

000.05390 hours per job

LAT 263 CUT one piece, CIRCULAR, up to 6 ft.of cut on nibbler/pullmax machine. (includes set up, material handling, & process time fo 6 ft. of cut.)

000.13234 hours per job

LAT 264 CUT one piece, CIRCULAR, 7 to 12 feet of cut on nibbler/pullmax machine.(includes set up , material handling, & process time 12 ft. of cut.)

000.17134 hours per job

Supplemental Machine Task PITTSBURG LOCK SEAM machine, per set-up/per piece/per ft.

The Power Pittsburg lock seam machine often preforms many task of a preset nature. Among these are shear, make drive locks, make S locks, seam and turn flanges.
Times are made by using : PER SETUP, PER PIECE HANDLED, PER FOOT FORMED.

TASK TIME STANDARDS LISTING

LAT223 pittsburg lock seam SET UP MACHINE & FORM SEAM per job/piece/foot

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 223 SET UP MACHINE AND FORM PITTSBURG LOCK SEAMS
INCLUDES: set up machine, pick up position & aside part, form and inspect seam.

000.00710 hours per MACHINE SET UP

000.00723 hours per PIECES HANDLED

000.00119 hours per FOOT

SMALL HAND PUNCH , APPROXIMATELY TWO POUNDS IN WEIGHT.
Part size classes: S = small = to 40 lbs., to 16 sq. ft.
M = medium = > 40 lbs. to 80 lbs.
L = large = > 80 lbs.
manually operated portable hand punch.

TASK TIME STANDARDS LISTING

LAT253	2 lb.hand punch	PUNCH 2 or more HOLES in	SMALL or MED. sheetmetal part.
LAT254	2 lb.hand punch	PUNCH 2 or more HOLES in	LARGE sheet-metal part.
LAT255	15 lb.hand punch	PUNCH 2 or more HOLES in	SMALL or MED. sheetmetal part.
LAT256	15 lb. hand punch	PUNCH 2 or more HOLES in	LARGE sheet-metal part.
LAT257	stationary hand punch	PUNCH 2 or more HOLES in	SMALL sheet-metal part.
LAT258	stationary hand punch	PUNCH 2 or more HOLES in	MEDIUM sheet-metal part.
LAT259	stationary hand punch	PUNCH 2 or more HOLES in	LARGE sheet-metal part.

LAT 253 FORM (3) 90 DEGREE BENDS ON EACH OF TWO PIECES OF METAL 4 1/2 "x 1 1/2"x 1/8" USING LEAF BRAKE .
INCLUDES: adjust for thickness, walk to and from brake, all actions required to get , make brakes and aside material.

000.08665 hours per JOB

LAT 254 With 2 pound portable hand punch, punch 2 or more holes in large sheetmetal part.
large = greater than 80 lbs. requires 3 men to handle part
INCLUDES: position material, position punch to 1st. hole & punch, and position punch to location & punch hole for each additional hole.

000.02761 hours per 1st. hole

000.00087 hours per additional hole

LAT 255 With 15 lb. portable hand punch, punch 2 or more holes in small or medium part.
INCLUDES all motions required to pick up, position to first hol and punch and additional and aside.

000.02713 hours per 1st. hole

000.00151 hours per additional hole

LAT 256 With 15 lb. portable hand punch, punch 2 or more holes in large sheetmetal part.
.
large = greater than 80 lbs. 3 men required to handle part.
INCLUDES: locate part to enable access to punch and all actions to locate punch to 1st. hole & additional holes and punch.

000.03672 hours per 1st.hole

000.00151 hours per additional hole

LAT 257 With stationary hand punch , punch 2 or more holes in small sheetmetal part.
small = to 40 lbs. part
INCLUDES: locate part to allow access for punch, locate punch to 1st. and additional holes and punch.

000.02462 hours per 1st.hole

000.00401 hours per additional hole

LAT 258 With stationary hand punch , punch 2 or more holes in medium sheetmetal part.
medium = 40-80 lb. part , requires 2 men to handle
INCLUDES: all actions to locate part to allow access for punch, locate 1st. hole and additional and punch.

000.03212 hours per 1st.hole

000.00612 hours per additional hole

LAT 259 With stationary hand punch, punch 2 or more holes in large sheetmetal part.
.
large = greater than 80 lb. part, requires 3 men to handle.
INCLUDES: locate part to allow punch access, locate 1st. and additional and punch.

000.04049 hours per 1st.hole

000.00819 hours per additional hole

These task are for shear angle iron , round and square bars on a shearing machine of the IRON WORKER TYPE. Task are classed by size: 1.5" = shapes & angle up to or <.25"thick x 1.5"x1.5" , round & square bar 3/4" & less. 1.5"-3" = shapes & angle.25"x1.5"x1.5"to .25"x3"x3",& round & square bar 3/4"to 1-5/8". ALSO TYPE OF CUT TO BE MADE thus describing most cutting task.

TASK TIME STANDARDS LISTING

LAT238	Shear flat bar	to 1/4"x6"....wide	1	CUT AT 90DEG.--1cut
LAT239	Shear flat bar	>1/4"to5/8"x6"wide	1	CUT AT 90DEG.--1cut
LAT240	NOTCH extru.shape	bar&angle	1	PLACE --1cut add to shear time
LAT230	Shear extruded shape	to 1.5"	1	END AT 90DEG.--1cut
LAT231	Shear extruded shape	to 1.5"	2	ENDS AT 90DEG.-2cuts
LAT232	Shear extruded shape	to 1.5"	> 2	CUTS AT 90DEG.
LAT237	Shear extruded shape	to 1.5"		TURN END FOR END &1cut AT 90DEG.
LAT233	Miter extruded shape	to 1.5"	1	END MITER --1cut
LAT234	Miter extruded shape	to 1.5"	2	ENDS MITER --2cuts
LAT235	Miter extruded shape	to 1.5"	> 2	CUTS MITER multi-angle
LAT236	Miter extruded shape	to 1.5"	2	ENDS MITER --2cuts 1 from opposite side of machine
LAT241	Shear extruded shape	1.5"-3"	1	END 90DEG. --1cut
LAT242	Shear extruded shape	1.5"-3"	2	ENDS 90DEG. --2cuts
LAT243	Shear extruded shape	1.5"-3"	> 2	CUTS 90DEG.
LAT248	Shear extruded shape	1.5"-3"		TURN END FOR END & 1cut AT 90DEG.
LAT244	Miter extruded shape	1.5"-3"	1	END MITER --1cut
LAT245	Miter extruded shape	1.5"-3"	2	ENDS MITER --2cuts
LAT246	Miter extruded shape	1.5"-3"	> 2	CUTS MITER
LAT247	Miter extruded shape	1.5"-3"	2	ENDS MITER --2cuts 1 from opposite side of machine
LAT248	Miter extruded shape	1.5"-3"		TURN END FOR END & shear

LAT 238 SHEAR EXTRUDED FLAT BAR on IRON WORKER TYPE MACHINE.
NOTE: for flat bar to .25"thick and 6"wide
1 cut at 90 degrees.
INCLUDES: on/off machine, shear, piece to roller, aside piece.

000.01598 hours per PIECE

LAT 239 SHEAR EXTRUDED FLAT BAR on IRON WORKER TYPE MACHINE.
NOTE: shear flat bar greater than 1/4"thick to 5/8" thick
1 cut at 90 degrees, up to 6" wide.
INCLUDES: all actions to shear flat bar, & carry to machine & back, place piece on roller, on/off machine, lay aside left ove piece.

000.02002 hours per PIECE

LAT 240 NOTCH extruded structural shape on IRON WORKER TYPE MACHINE.
(ADD TIME TO SHEAR TIME) per notch
NOTE: to 5/8"thick material
INCLUDES: all actions required to make 1st. cut & move piece through shear to mark , remove & replace notch cutter shield.

000.01250 hours per PIECE

LAT 230 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round or square bar ----- 90 DEGREES 1 END.
NOTE: angle iron up to .25" x 1.5" x 1.5". ----------
round and square bar to .75"
INCLUDES: carry to machine &carry back, place on portable rolle shear, remove &replace hold down pin, on/off motor, aside piece

000.01438 hours per PIECE

LAT 231 Shear extruded structural shape on IRON WORKER TYPE MACHINE
SHEAR angle iron, round & square bar ----- 2 ends 90 degrees.
NOTE: angle iron up to .25" x 1.5" x 1.5".
round and square bar to .75".
INCLUDES: carry to machine & carry back, on/off motor, shear & remove replace hold down pin, turn end for end and aside piece.

000.02688 hours per PIECE

LAT 232 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round or square bar--2 or more cuts at 90 deg
NOTE: angle iron up to .25" x 1.5" x 1.5".
round & square bar to .75"
INCLUDES: carry piece to machine & carry back, place on roller, shear, remove & replace hold down pin, on/off motor, aside piec

000.01332 hours per PIECE

000.00430 hours per SHEAR

LAT 237 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round or square bar--TURN END FOR END & SHEAR OPPOSITE END 90degree
NOTE: angle iron up to .25" x 1.5" x 1.5".
round & square bar to .75"
INCLUDES: turn end for end, on roller, shear, & aside.

000.01250 hours per PIECE

LAT 233 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round or square bar --- MITER (1 end).
NOTE: angle iron up to .25" x 1.5" x 1.5".
round & square bar to .75".
INCLUDES: all actions to shear 90 degrees & remove & relocate pin to control degree of cut.

000.01481 hours per PIECE

LAT 234 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron up to .25 x 1.5" x 1.5"--- MITER (BOTH ENDS).
round & square bar to .75".
INCLUDES: all actions to shear both ends 90 degrees & remove & relocate pin to control degree of cut two times.

000.02774 hours per PIECE

LAT 235 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round or square bar ---- MITER(> 2 SHEARS).
NOTE: angle iron up to .25" x 1.5" x 1.5" .
round and square bar to .75"
INCLUDES: all actions required to shear 90 degrees, & remove & relocate pin to control degree of cut.

000.01332 hours per PIECE

000.00473 hours per SHEAR

LAT 236 Shear extruded shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron , round or square bar---MITER OPPOSITE ENDS 1 from opposite of machine.
NOTE: angle iron up to .25" x 1.5" x 1.5".
round & square bar to .75"
INCLUDES: all actions to miter both ends,& walk to back of shea

000.03224 hours per PIECE

LAT 241 Shear extruded structural shape on IRONWORKER TYPE MACHINE.
SHEAR angle iron, round or square bar---90 DEGREES 1 END--1 cut
NOTE: angle iron > (.25"x 1.5"x 1.5") to (.25"x 3"x 3").
.
INCLUDES: carry piece to machine & back, place on rollers, shea , remove & replace hold down pin, on/off motor, aside piece.

000.01842 hours per PIECE

LAT 242 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round & square bar- 90 DEGREES BOTH ENDS.
NOTE: angle iron > (.25"x 1.5"x 1.5") to (.25"x 3" x 3").
round & square bar > (.75") to (1-5/8")
INCLUDES: carry piece to & from machine, place on roller, shear end for end, remove & replace hold down pin, on/off motor, asid

000.03268 hours per PIECE

LAT 243 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round or square bar--90 DEGREES > 2 SHEARS.
NOTE: angle iron greater than(.25"x1.5"x1.5")to(.25"x3"x3")
round and square bar > (.75") to (1-5/8")
INCLUDES: carry to & from machine, place on roller, all actions to shear, remove replace hold down pin, on off motor, aside par

000.01912 hours per PIECE

000.00430 hours per SHEAR

LAT 248 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron,round or square bar--TURN END FOR END AND SHEA
OPPOSITE END
NOTE: angle iron > (.25"x1.5"x1.5") to (.25"x3"x3")
round & square bar > (.75") to (1-5/8").
INCLUDES:all actions for shear, turn end for end,place on rolle

000.01918 hours per PIECE

LAT 244 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round & square bar --MITER 1 END
NOTE: angle iron > (.25"x1.5"x1.5") to (.25"x3"x3")
round & square bar > (.75") to (1-5/8").
INCLUDES: all actions required to shear 90 degrees, remove & relocate pin to control degree of cut.

000.01885 hours per PIECE

LAT 245 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round or square bar---MITER BOTH ENDS.
NOTE: angle iron > (.25"x1.5"x1.5") to (.25"x3"x3")
round & square bar > (.75") to (1-5/8").
INCLUDES: all actions to shear both ends 90 degrees, remove & relocate pins to control degree of cut two times.

000.03354 hours per PIECE

LAT 246 Shear extruded shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round or square bar--MITER > 2 CUTS.
NOTE: angle iron > (.25"x1.5"x1.5") to (.25"x3"x3")
round & square bar > (.75") to (1-5/8").
INCLUDES: all actions required to shear 90 degrees, remove & relocate pin to control degree of cut.

000.01912 hours per PIECE

000.00473 hours per SHEAR

LAT 247 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron, round or square bar---MITER OPPOSITE ENDS ONE SIDE FROM OPPOSITE SIDE OF MACHINE
NOTE: angle iron > (.25"x1.5"x1.5") to (.25"x3"x3")
round & square bar (.75") to (1-5/8").
INCLUDES: all actions to miter both ends, walk to back&return 3

000.03804 hours per PIECE

LAT 248 Shear extruded structural shape on IRON WORKER TYPE MACHINE.
SHEAR angle iron,round or square bar--TURN END FOR END AND SHEA OPPOSITE END
NOTE: angle iron > (.25"x1.5"x1.5") to (.25"x3"x3")
round & square bar > (.75") to (1-5/8").
INCLUDES:all actions for shear, turn end for end,place on rolle

000.01918 hours per PIECE

Theses tasks are based on three material classes:(most used = S)
S = small = to 40 lbs., to 16 sq.ft.,REQ.1 MAN to handle.
M = medium = > 40-80 lbs., & or > 16 sq.ft., requires 2 men.
L = large = > 80... lbs.,.....requires 3 men.
ALSO THERE ARE 2 CLASSES OF CUTS: 1st.= move material
to & from storage area & aside, activate shear, position sheet &
shear, occuranced to gage to line or front/rear gage.
2nd.= turn sheet to new position and make cut. THEREBY MOST
SEQUENCES OF SHEAR TASK CAN BE ACHIEVED

TASK TIME STANDARDS LISTING

LAT224	1 CUT ONLY	S = small piece	1 man
LAT225	1 CUT ONLY	M = medium piece	2 men
LAT226	1 CUT ONLY	L = large piece	3 men
LAT227	1st.CUT & ADDITIONAL	S = small	1 man
LAT228	1st.CUT & ADDITIONAL	M = medium	2 men
LAT229	1st.CUT & ADDITIONAL	L = large	3 men

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 224 SHEAR SMALL SHEET ....1 cut
small = to 40 lbs., to 16 sq.ft. 1man
INCLUDES: turn shear on & off , move sheet from vertical rack
to shear, position in shear , shear , and aside .

000.01407 hours per 1ST.SHEAR

LAT 225 SHEAR MEDIUM SHEET ....one cut
medium = 40-80 lbs., 2 men
INCLUDES: turn shear on & off, move sheet from vertical rack
to shear, position sheet in shear, shear, aside sheet.

000.02704 hours per 1ST.SHEAR

LAT 226 SHEAR LARGE SHEET ... 1 cut
large = > 80 lbs., requires 3 men
INCLUDES: turn shear on & off, move large sheet from vertical
storage rack, position sheet in shear, shear , and aside sheet.

000.04022 hours per 1ST.SHEAR

LAT 227 SHEAR SMALL SHEET ... 2 or more cuts
small = to 40 lbs., to 16 sq.ft. 1 man
INCLUDES: all actions for 1st cut and turn to new position
and make additional shear.

000.01407 hours per 1ST.SHEAR

000.00778 hours per ADDITIONAL SHEAR

LAT 228 SHEAR MEDIUM SHEET ... 2 or more cuts
medium = 40-80 lbs., 2 men
INCLUDES: all actions to make 1st. cut and turn medium sheet to new position and make additional shear.

000.02704 hours per 1ST.SHEAR

000.01539 hours per ADDITIONAL SHEAR

LAT 229 SHEAR LARGE SHEET....2 or more cuts
large = > 80 lbs. 3 men
INCLUDES: all actions to make 1st. cut and turn large sheet to new position and make additional shear.

000.04022 hours per 1ST.SHEAR

000.02487 hours per ADDITIONAL SHEAR

Assemble and solder are task developed to afford times for many task by giving a task formula format as: classes of parts ;
S = (small = 40 lbs. or less & less 16 sq.ft...1 man handles)
M = (medium = > 40 lbs. to 80 lbs.....bulk may require 2 men)
L = (large = > 80 lbs.....may require 2 or 3 men.) &
also per JOB = normal occurance of heat and clean
per PIECE = handling time
per INCH = cleaning surface and solder per inch

TASK TIME STANDARDS LISTING

LAT185	SOLDER PARTS IN PLACE	any size per in.	w/FLAME HEATED irons	.
LAT186	ASSEMBLE & SOLDER	S or M piece	w/FLAME HEATED irons	per inch
LAT187	ASSEMBLE & SOLDER	L piece	w/FLAME HEATED irons	per inch
LAT188	SOLDER PARTS IN PLACE	any size per in.	w/ELECTRICAL iron	.
LAT189	ASSEMBLE & SOLDER	S or M piece	w/ELECTRICAL iron	per Inch
LAT190	ASSEMBLE & SOLDER	L piece	w/ELECTRICAL iron	per Inch

LAT 185 Solder parts in place: (no assembly) using flame heated irons.
(Fire pot, blow torch, or gas burner.

000.13865 hours per JOB

000.00571 hours per INCH

LAT 186 Assemble & solder small or medium parts using flame heated iron.

small = 40 lbs. or less & less than 16 sq.ft. - 1 man handles.
medium = > 40 lbs. to 80 lbs.bulk may require 2 men
INCLUDES: clean soldering iron, heat soldering iron, assemble small or medium part, clean & flux & apply solder.

000.13865 hours per JOB

000.00997 hours per ASSEMBLY

000.00571 hours per INCH

LAT 187 Assemble & solder large parts using flame heated irons.

large = > 80 lbs. in bulk , may require 2 or 3 men to handle.
INCLUDES: clean soldering iron, heat two irons, assemble large sheet or part, clean & flux surface, apply solder.

000.13865 hours per JOB

000.03090 hours per PIECE

000.00571 hours per INCH

LAT 188 Solder parts in place using electrically heated irons.

INCLUDES: clean soldering iron, heat iron, assemble large sheet or part, clean & flux & solder surface.

000.08020 hours per JOB

000.00571 hours per INCH

LAT 189 Assemble & solder small or medium parts using electrically heated irons.
small = 40 lbs. or less, < 16 sq.ft. , 1 man required.
medium = > 40 lbs. to 80 lbs. may require 2 men.
INCLUDES: clean soldering iron, heat 2 irons, clean & flux & solder surface.

000.08020 hours per JOB

000.00997 hours per PIECE

000.00571 hours per INCH

LAT 190 Assemble & solder large parts using electrically heated irons.
large = > 80 lbs. may require 2 or 3 men
INCLUDES: clean solder iron, heat iron, clean & flux & solder surface.

000.08020 hours per JOB

000.03090 hours per PIECE

000.00571 hours per INCH

Assemble and Spotweld are task developed to afford times for many task by giving a task formula format as: Classes of parts;
S = small = to 5 lbs....., <6....sq.ft., 2-6..spots to weld.
M = medium = >5 lbs.to45 lbs, 7-14 sq.ft., 7-12 spots to weld.
NOTE: This standard applies only to the simplest of shop spotwelders where there are no complex preheats or postheat cycles & only simple and straightfoward parts designs.

TASK TIME STANDARDS LISTING

LAT218	ASSY.& SPOTWELD	SET UP SPOTWELDER : includes set heat,adjust cycles, clean/chg.tips & throat.		
LAT219	ASSY.& SPOTWELD	NOFIXTURE	Small	PART
LAT220	ASSY.& SPOTWELD	NOFIXTURE	Medium	PART
LAT221	ASSY.& SPOTWELD	INFIXTURE	Small	PART & remove
LAT222	ASSY.& SPOTWELD	INFIXTURE	Medium	PART & remove

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

LAT 218 SET UP SPOTWELDER
INCLUDES: set controls, switch & adjust cycle dials, clean tips,change tips every 3rd. job, change throat depth every eight jobs.

000.02827 hours per JOB

LAT 219 ASSEMBLE, MOVE TO MACHINE AND SPOTWELD, ONE SMALL PART TO SMALL PART OR MEDIUM ASSEMBLY, AND RETURN. NO FIXTURE.
small = to 5 lbs. , <6 sq.ft. , req. 2-6 spots to weld.
medium = > 5 to 45 lbs., >6-14 sq.ft., req.7-12 spots to weld.

000.05126 hours per ASSEMBLY

LAT 220 ASSEMBLE, MOVE TO MACHINE AND SPOTWELD ONE MEDIUM PART TO MEDIUM ASSEMBLY, AND RETURN (no fixture)
medium = > 5 lbs-45 lbs, > 6-14 sq.ft.,req. 2-12 spots to weld.

000.10606 hours per ASSEMBLY

LAT 221 ASSEMBLE IN FIXTURE , SPOTWELD ONE SMALL PART TO SMALL OR MEDIUM ASSEMBLY, AND REMOVE.
small = to 5 lbs. , < 6 sq.ft. , req. 2-6 spots to weld
medium = >5 lbs.-45 lbs., 7-14 sq.ft., req.7-12 spots to weld

000.03347 hours per ASSEMBLY

LAT 222 ASSEMBLE IN FIXTURE, SPOTWELD ONE MEDIUM PART TO MEDIUM ASSEMBLY AND REMOVE.
medium = 5 lbs.-45lbs, >6- 14 sq.ft., 7-12 spots to weld.

000.07511 hours per ASSEMBLY

TASK TIME STANDARDS DEVELOPMENT BACKUP

EAT 001 1 MANUAL BURN AND REMOVE SLAG 1 FT.

EAT 002 1 MACHINE BURN AND REMOVE SLAG

EAT 003 1 BURN OFF RODS, BOLTS, NUTS OR SIMILAR SHAPE

EAT 004 1 GRIND GAS CUT EDGE OF STEEL PLATE

EAT 005 1 ASSEMBLE AND WELD

EAT 006 1 ASSEMBLE AND WELD

EAT 007 1 POSITION AND WELD

EAT 008 1 POSITION AND WELD

EAT 009 1 POSITION AND WELD

EAT 010 1 PREHEAT ALUMINUM 1 FT.

EAT 011 1 GRIND WELDED ALUMINUM SURFACES

EAT 012 1 GRIND WELDED ALUMINUM SURFACES

EAT 013 1 MEASURE AND MARK CHANNELS AND BARS (14 OCCUR)
2 SAW CHANNELS AND BARS 90 DEGREES 5 CUTS PER LADDER
3 SAW CHANNELS AT AN ANGLE 4 CUTS PER LADDER
4 SHEAR HOOK BARS 2 SHEARS PER LADDER
5 BEND HOOK BARS 4 BENDS PER LADDER
6 ASSEMBLE AND WELD STEPS AND HOOKS 7 PIECES AND 50 INCHES WELDED PER LADDER
7 MATERIAL HANDLING (2 OCCUR)

EAT 014 1 LAYOUT LARGE SHEET FOR TOP (1 OCCUR)
2 SHEAR ALUMINUM SHEET 1 SHEAR PER TABLE
3 NOTCH CORNERS 8 NOTCHES PER TABLE
4 BEND EDGES 3 BENDS PER TABLE
5 ASSEMBLE TOP TO TABLE
6 DRILL AND BOLT TOP TO TABLE FRAME 43 HOLES DRILLED AND 43 BOLTS INSTALLED
7 PRE-HEAT CORNERS FOR WELD
8 WELD CORNERS
9 GRIND WELDS 2 FT GROUND PER TABLE
10 MATERIAL HANDLING

EAT 015 1 LAY OUT BOX
2 SHEAR SHEET - LARGE 3 CUTS PER PER BOX
3 SHEAR SHEETS - SMALL 7 SHEARS PER BOX
4 NOTCH PRIOR TO BENDING 10 NOTCHES PER BOX
5 BEND FOR FORMING 18 BENDS PER BOX
6 DRILL HOLES AND INSTALL RIVETS 46 RIVETS INSTALLED , 5 INCHES DRILLED
7 MATERIAL HANDLING

EAT 016
1 LAYOUT CONTAINER
2 SHEAR PIECES FOR SIDES AND HANDLE 3 SHEARS PER CONTAINER
3 CUT DISCS FOR BOTTOM AND LID 2 CUTS PER CONTAINER
4 ROLL SIDES OF TANK AND LID LIP 2 PIECES ROLLED ; 10 TOTAL FT ROLLED
5 BEND PIECE FOR HANDLE 2 BENDS PER CONTAINER
6 ASSEMBLE AND WELD PIECES 5 PIECES AND 150 INCHES WELDED PER CONTAINER
7 GRIND WELDS 12 FT GROUND PER CONTAINER
8 MATERIAL HANDLING

EAT 017
1 LAY OUT RECEIVER
2 SHEAR SHEET FOR CYLINDER
3 CUT DISK FOR BOTTOM
4 ROLL SHEET FOR CYLINDER
5 CUT RODS FOR RIM AND HANDLES 3 CUTS PER RECEIVER
6 ROLL ROD FOR RIM
7 BEND HANDLES 6 BENDS PER RECEIVER
8 ASSEMBLE AND WELD CYLINDER AND BOTTOM 2 PIECES AND 100 INCHES WELDED PER RECEIVER
9 ASSEMBLE AND WELD RIM AND HANDLES 3 PIECES AND 80 INCHES WELDED PER RECEIVER
10 GRIND WELDS 12 FT GROUND PER RECEIVER
11 MATERIAL HANDLING

EAT 018
1 LAY OUT SINK
2 MARK FROM TEMPLATE AND SHEAR 6 LINES LAID OUT AND 75 INCHES SHEARED PER SINK
3 SHEAR LARGE SHEET 6 SHEARED PER SINK
4 PUNCH HOLES FOR DRAIN
5 SHEAR ANGLES 4 ANGLES SHEARED PER SINK
6 BEND TOP RIM 16 BENDS PER SINK
7 ROLL SINK BOTTOM
8 TACK WELD JOINTS AND LEGS 16 TACK WELDS PER SINK
9 WELD JOINTS LEGS AND OUTLETS 5 PIECES AND 120 INCHES WELDED PER SINK
10 GRIND WELDS 10 FT GROUND PER WELD
11 MATERIAL HANDLING

EAT 019
1 MEASURE AND MARK CHANNELS AND TUBE 8 MEASUREMENTS PER CART
2 SAW CHANNELS AND PIPE 8 PIECES CUT PER CART
3 SHEAR CUT GUSSETS AND PLATES FOR CASTER MOUNTS 17 SHEARS PER CART
4 SHEAR PINS 20 PINS SHEARED PER CART
5 SHEAR DECK PLATE
6 DRILL CASTER MOUNTING PLATES AND INSTALL BOLTS 16 BOLTS INSTALLED PER CART
7 WELD FRAME AND PLATFORM 16 PIECES AND 250 INCHES WELDED PER CART
8 GRIND WELDS 20 FT GROUND PER CART
9 MATERIAL HANDLING

EAT 020
1 LAY OUT FOR TRAYS
2 SHEAR LARGE SHEET 7 SHEARS PER SET
3 SHEAR SMALL SHEETS 10 SHEARS PER SET
4 MARK FROM TEMPLATE AND SHEAR 16 LINES LAID OUT AND 96 INCHES SHEARED PER SET
5 BEND EDGES 26 BENDS PER SET
6 TACK WELD 34 TACK WELDS PER SET
7 WELD JOINTS (16 INCHES WELDED PER SET X 2 SETS = 32 INCHES)
8 GRIND ALL JOINTS (1.335 FT. GROUND PER SET X 2 SETS = 2.67 FT.)
9 MATERIAL HANDLING

EAT 021
1 LAY OUT RACK
2 LAY OUT FROM PATTERN 40 LINES LAID OUT AND 60 INCHES SHEARED PER SET
3 SHEAR OUT BLANKS 30 SHEARS PER SET
4 CUT OUT DISKS FOR BACKS 40 FT CUT PER SET, 5 PIECES
5 CUT OUT FLANGES 10 PIECES AND 40 FT CUT PER SET
6 PUNCH MOUNTING HOLES 20 HOLES PUNCHED PER SET
7 SHEAR OUT GUSSETS 20 SHEARS PER SET
8 ASSEMBLE AND WELD 30 PIECES AND 240 INCHES WELDED PER SET
9 GRIND EDGES 90 FT GROUND PER SET
10 MATERIAL HANDLING

EAT 022
1 MEASURE AND MARK ANGLES 24 TIMES PER TABLE
2 SHEAR ANGLES 90 DEGREES 15 SHEARS PER TABLE
3 SHEAR ANGLES 45 DEGREES 8 SHEARS PER TABLE
4 SHEAR GUSSETS AND FLOOR PLATES 10 SHEARS PER TABLE
5 PUNCH HOLES IN FLOOR PLATES 24 HOLES PUNCHED PER TABLE
6 ASSEMBLE FRAME ANGLES, GUSSETS AND FLOOR PLATES (56 PIECES)
7 WELD FRAME ANGLES, GUSSETS AND FLOOR PLATES 19 FT GROUND PER TABLE
8 GRIND WELDS 19 FT GROUND PER TABLE
9 FABRICATE AND INSTALL 1/4" TOP TO TABLE FRAME
10 MATERIAL HANDLING

EAT 023
1 MEASURE AND MARK 20 TIMES PER TANK
2 SHEAR SHEETS 4 SHEARS PER TANK
3 ASSEMBLE AND WELD SHEETS AND OUTLET 6 PIECES AND 470 INCHES WELDED PER TANK
4 DRILL HOLE FOR OUTLET
5 CUT TUBE FOR OUTLET
6 GRIND WELDS 39 FT GROUND PER TANK
7 MATERIAL HANDLING

EAT 024 1 ARC WELD AND REMOVE SLAG

EAT 025 1 POSITION AND WELD

EAT 026 1 POSITION AND WELD

EAT 027 1 ASSEMBLE AND WELD

EAT 028 1 ASSEMBLE AND WELD

EAT 029 1 ARC WELD AND REMOVE SLAG

EAT 030 1 POSITION AND WELD

EAT 031 1 POSITION AND WELD

EAT 032 1 ASSEMBLE AND WELD

EAT 033 1 ASSEMBLE AND WELD

EAT 034 1 WELD AND REMOVE SLAG

EAT 035 1 POSITION AND WELD

EAT 036 1 POSITION AND WELD

EAT 037 1 ASSEMBLE AND WELD

EAT 038 1 ASSEMBLE AND WELD

EAT 039 1 BURN PIPE FOR FIT * (1 FT / 12 INCHES)(3.14 X 2 I
NCHES OD) = .5* OCCURANCE CALCULATIONS
2 ASSEMBLE AND WELD PIPE * (3.14)(2 INCHES OD = 7 (
ROUNDED TO NEXT INCH)* OCCURANCE CALCULATIONS

EAT 040 1 BURN PIPE FOR FIT * (1 FT / 12 INCHES)(3.14 X 5 I
NCHES OD) = 1.3* ROUNDED TO NEXT TENTH
2 ASSEMBLE AND WELD PIPE * (3.14)(4-1/2) = 15 (ROUN
DED TO NEXT INCH)

EAT 041 1 BURN PIPE FOR FIT * (1 FT / 12 INCHES)(3.14 X 7 I
NCHES OD) = 1.8* ROUNDED TO NEXT TENTH
2 ASSEMBLE AND WELD PIPE * (3.14)(7 INCHES) = 22 (R
OUNDED TO NEXT INCH)

EAT 042 1 BURN PIPE FOR FIT * (1 FT / 12 INCHES)(3.14 X 9 I
NCHES) = 2.35
2 ASSEMBLE AND WELD PIPE * (3.14)(8 INCHES) = 29 (R
OUNDED TO NEXT INCH)
3 MATERIAL HANDLING

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EAT 043  1 ASSEMBLE AND WELD FLANGES OR FITTING.  * (3.14)(4.
           5 INCHES / JOINT)(2 JOINTS / JOB) = 29* ROUNDED TO

EAT 044  1 SHEAR 4 ANCHOR PLATES
         2 PUNCH HOLES IN PLATES 16 HOLES PUNCHED
         3 WELD ANCHOR PLATES 31 INCHES WELDED PER SET

EAT 045  1 ASSEMBLE AND WELD FLANGES OR FITTING  * (3.14)(6.5
           INCHES / JOINT)(2 JOINTS / JOB) = 41* ROUNDED TO
         2 MATERIAL HANDLING

EAT 046  1 BURN AND REMOVE PIPE SECTION  * (1 FT / 12 INCHES)
           (3.14 X 7 INCHES)(2 BURNS)=3.7* ROUNDED TO NEXT TE
         2 ASSEMBLE AND WELD FITTING  * (3.14)(7 INCHES / JOI
           NT)(2 JOINTS / JOB) = 44* ROUNDED TO NEXT INCH
         3 MATERIAL HANDLING

EAT 047  1 LAY OUT TEMPLATE AND MARK PIPES
         2 BURN PIPES  * (1 FT / 12 INCHES)(7 INCHES)(2 BURNS
           / Y BRANCH* = 3.7 (ROUNDED TO NEXT TENTH)
         3 ASSEMBLE AND WELD PIPES  * (3.14)(7 INCHES) = 22 (
           ROUNDED TO NEXT INCH)
         4 MATERIAL HANDLING

EAT 048  1 SHEAR FLAT BAR 12 SHEARS PER SET OF 12
         2 BEND BARS 12 BENDS PER SET OF 12
         3 DRILL BARS - (4) HOLES EACH 48 HOLES DRILLED PER S
           ET OF 12
         4 SHEAR ASSEMBLE AND WELD (4) GUSSETS
         5 MATERIAL HANDLING

EAT 049  1 LAY OUT PIPES
         2 CUT OR BURN PIPES (8 OCCUR)
         3 GRIND (SCARF) ENDS AND CHAMFER 3 FT GROUND PER GUA
           RD RAIL
         4 LAY OUT ANCHOR PLATES
         5 SHEAR OR BURN ANCHOR PLATES 5 FT BURNED PER GUARD
           RAIL
         6 TACK WELD AND SQUARE UP RAILS AND STANCHIONS 12 TA
           CK WELDS PER GUARD RAIL
         7 DRILL HOLES IN ANCHOR PLATE 8 HOLES DRILLED PER GU
           ARD RAIL
         8 TACK WELD STANCHIONS TO ANCHOR PLATES 24 TACK WELD
           S PER GUARD RAIL
         9 WELD ALL AROUND AND REMOVE SLAG 54 INCHES WELDED P
           ER GUARD RAIL

EAT 050  1 MEASURE AND MARK PIPES 20 TIMES PER GUARD RAIL
         2 CUT PIPES 9 CUTS PER GUARD RAIL
         3 BURN PIPES FOR FIT 42 PIECES BURNED PER GUARD RAIL
         4 ASSEMBLE AND WELD PIPES 12 PIECES AND 72 INCHES WE
           LDED PER GUARD RAIL
         5 CUT, DRILL AND WELD 4 ANCHOR PLATES
         6 MATERIAL HANDLING
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EAT 051  1 CUT PIPE WITH POWER HACKSAW 15 CUTS PER SET OF 6
         2 DRILL HOLES IN CROSSARMS (4 EACH) 24 HOLES DRILLED
           PER SET OF 6
         3 BURN ONE END OF UPRIGHT (PER FOOT OF BURN)  * (1 F
           T / 12 INCHES)(3.14 X 3 INCHES OD)(4 BURNS)* = 3.2
         4 ASSEMBLE PIPES
         5 WELD PIPES
         6 MATERIAL HANDLING

EAT 052  1 BURN AND REMOVE PIPE SECTION  * (1 FT / 12 INCHES)
           (3.14 X 9 INCHES OD)(2 BURNS)* = 4.7
         2 ASSEMBLE AND WELD FITTING  * (3.14)(9 INCHES OD)(2
           JOINTS PER FITTING) = 57* X(1.52)FOR ELIPS = 87 R
         3 MATERIAL HANDLING

EAT 053  1 WELD (2) - 4" FLANGES
         2 WELD 4" PIPE TO REDUCER  * (3.14)(4.5 OD) = 14 (RO
           UNDED TO NEXT INCH)
         3 WELD (2) FITTINGS AND (2) FLANGES INTO 6" LINE
         4 MATERIAL HANDLING

EAT 054  1 FABRICATE LEFT SIDE GUARD RAIL
         2 FABRICATE RIGHT SIDE GUARD RAIL
         3 LAY OUT CENTRAL PORTION
         4 CUT PIPE
         5 GRIND (SCARF) ENDS AND CHAMFER 4 FT GROUND
         6 TACK WELD TO LEFT AND RIGHT GUARD ASSEMBLY AND SQU
           ARE - 8 TACK WELDS
         7 WELD ALL ROUND AND REMOVE SLAG 54 INCHES WELDED

EAT 055  1 MACHINE BURN 3/4" PLATE FOR BASE 48 FT BURNED PER
           SET OF 9
         2 GRIND EDGES OF BASE 48 FT GROUND PER SET OF 9
         3 CUT PIPE (9 OCCUR)
         4 SHEAR BRACE BARS (50 OCCUR)
         5 BEND LATERAL SUPPORT BARS 36 BENDS PER SET OF 9
         6 POSITION POST, BRACES AND SIGNS (72 OCCUR)
         7 ARC WELD PIPE AND BRACES (100 OCCUR)
         8 FABRICATE SIGN BLANKS (9 OCCUR)
         9 DRILL HOLES AND INSTALL NUTS AND BOLTS 45 BOLTS IN
           STALLED
        10 MATERIAL HANDLING

EAT 056  1 BURN AND REMOVE SECTION OF 8" PIPE AND INSTALL TEE
         2 ASSEMBLE AND WELD 8" PIPE (30" PER JOINT)
         3 INSTALL TWO 6" FLANGES *(3.14)(7"OD /JOINT)(2 JOIN
           TS/ JOB) = 43.6
         4 ASSEMBLE AND WELD EIGHT 6" PIPE JOINTS  * (3.14)(6
           .5 INCHES OD/ FITTING)(8 FITTINGS) = 163
         5 MATERIAL HANDLING
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EAT 057  1 MEASURE AND MARK PIPE, CHANNELS AND PLATE
         2 BURN BASE PLATE AND TOP BAR, AND NOTCH CHANNEL (25
           FT )
         3 CUT 4" PIPE (5 CUTS)
         4 BEND CHANNEL (40 BENDS)
         5 DRILL BASE AND TOP BAR 25 HOLES DRILLED
         6 POSITION PIPE TO BASE (10 OCCUR)
         7 WELD PIPE TO BASE (7FT )
         8 SHEAR, ASSEMBLE AND WELD (4) GUSSETS TO PIPE AND B
           ASE
         9 POSITION CHANNELS AND TOP BAR (20 OCCUR)
        10 WELD CHANNELS AND TOP BAR (30FT )
        11 MATERIAL HANDLING

EAT 058  1 BURN ANGLE OR PIPE
         2 ASSEMBLE AND WELD ANGLE OR PIPE JOINT (8 OCCUR)

EAT 059  1 ASSEMBLE AND WELD CHANNEL (18 OCCUR)

EAT 060  1 SHEAR GUSSETS FROM FLAT BAR
         2 ASSEMBLE AND WELD GUSSETS (THREE INCHES WELDED EVE
           RY SIX INCHES - 24 INCHES TOTAL WELDED).

EAT 061  1 SHEAR ANGLES (8 CUTS)
         2 ASSEMBLE AND WELD ANGLES (56")

EAT 063  1 SHEAR ANGLES (8 PIECES,48 INCHES)
         2 PUNCH HOLES IN ANGLES (32 OCCUR)
         3 ASSEMBLE AND WELD ANGLES (16 PIECES, 160 INCHES)
         4 MATERIAL HANDLING

EAT 064  1 MEASURE AND MARK CHANNELS (6 OCCUR)
         2 POWER HACKSAW CHANNELS 6 CUTS PER DOOR BUCK
         3 DRILL HOLES IN CHANNELS 10 HOLES DRILLED
         4 CUT 1/2" X 1" STOP STRIPS (3 OCCUR)
         5 WELD IN STOP 34 INCHES WELDED PER DOOR BUCK
         6 ASSEMBLE AND WELD CHANNELS (2 OCCUR)
         7 MATERIAL HANDLING

EAT 065  1 BURN (2) SPLICE PLATES
         2 POSITION I-BEAM
         3 POSITION SPLICE PLATES (4 OCCUR)
         4 WELD I-BEAM AND (2) SPLICE PLATES 100 INCHES WELDE
           D
         5 MATERIAL HANDLING

EAT 066  1 SHEAR FLAT BARS (21 OCCUR)
         2 DRILL 3" FLAT BARS (28 OCCUR)
         3 HAND BURN ENDS OF 1-1/2" BAR FOR HOOKS (28 OCCUR)
         4 ROLL BARS SEMICIRCLE (14 PIECES, 18 FOOT)
         5 WELD BRACKETS TO BACK PLATE (14 OCCUR)
         6 MATERIAL HANDLING
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EAT 067 1 WELD (DOUBLE SEAM) 1/4" TO 1/2" THICK, 8FT LONG 19
2 INCHES WELDED
2 MATERIAL HANDLING.

EAT 068 1 MEASURE AND MARK ANGLES AND TOP (24 OCCUR)
2 SHEAR ANGLES 90 DEGREES 12 SHEARS PER TABLE
3 SHEAR ANGLES 45 DEGREES 8 SHEARS PER TABLE
4 MACHINE BURN TABLE TOP 8 FT BURNED PER TABLE
5 ASSEMBLE FRAME ANGLES (32 OCCUR)
6 DRESS BURNED EDGES OF TOP (8FT)
7 WELD FRAME ANGLES (12")
8 ASSEMBLE AND WELD (FOUR) GUSSETS
9 ASSEMBLE AND WELD (FOUR) FLOOR PLATES
10 DRESS WELDS FOR TOP FLUSH FIT (2FT)
11 ASSEMBLE AND WELD TOP PLATE 96 INCHES WELDED
12 MATERIAL HANDLING

EAT 069 1 LAY OUT LADDER COMPONENTS
2 LAY OUT OVERHAND ARCHES (2 OCCUR)
3 SHEAR BARS AND RUNGS (23 OCCUR)
4 MACHINE BURN PLATE FOR OVERHANG ARCHES (14FT)
5 GRIND OVERHANG ARCH EDGES (14FT)
6 DRILL ANCHOR BRACES AND BASE PLATES 32 HOLES DRILL
ED
7 BEND ANCHOR BRACES (6 OCCUR)
8 POSITION SIDE RAILS AND ARCHES (4 OCCUR)
9 POSITION RUNGS, ANCHOR BRACES AND PLATES (19 OCCUR
)
10 WELD LADDER 124 INCHES WELDED
11 MATRERIAL HANDLING

EAT 070 1 LAY OUT, MARK PLATES & LOCATE FITTINGS (14 OCCUR)
2 SHEAR PLATES 9 SHEARS PER TANK
3 ASSEMBLE BOTTOM AND SIDES (10 OCCUR)
4 DRILL HOLES FOR FITTINGS (2 OCCUR)
5 POSITION FITTINGS (4 OCCUR)
6 WELD TANK 47 INCHES WELDED
7 MATERIAL HANDLING

EAT 071 1 LAY OUT AND MARK ANGLES (40 OCCUR)
2 SHEAR ANGLES (40 OCCUR)
3 BURN ANGLES TO FIT (40 OCCUR)
4 TACK WELD 80 TACK WELDS PER SET OF 2
5 POSITION AND WELD (4" PER WELD), 40 PIECES, 320 IN
CHES WELDED PER SET OF 2
6 MATERIAL HANDLING

EAT 072 1 LAY OUT AND MARK ANGLES (45 OCCUR)
2 SHEAR ANGLES 45 SHEARS PER SET OF 3
3 ASSEMBLE ANGLES (90 OCCUR)
4 WELD ANGLES (33")
5 SHEAR, ASSEMBLE & WELD (4) GUSSETS TO EACH STAND,
(3 OCCUR)
6 SHEAR, DRILL & WELD (4) BASE PLATES TO EACH STAND,
(3 OCCUR)
7 MATERIAL HANDLING

EAT 073	1	MEASURE AND MARK SIDE RAILS, BACK GUARD STRINGERS AND HOOPS..(60 OCCUR)
	2	LAY OUT FOR BACK GUARD HOOPS (2 OCCUR)
	3	SHEAR BARS AND RUNGS, 5 PIECES, 50 SHEARS PER LADDER
	4	DRILL SUPPORTS AND SIDE RAILS 60 HOLES DRILLED
	5	ROLL (SIX) HOOPS SEMI-CIRCLE (6 PIECES, 24FT)
	6	BEND SUPPORTS & STRAIGHTEN HOOP ENDS (24 PIECES)
	7	POSITION SIDE RAILS (4 OCCUR)
	8	POSITION BACK GUARD HOOPS AND STRINGERS (22 PIECES)
	9	POSITION SUPPORTS AND RUNGS (60 PIECES)
	10	WELD SUPPORTS TO SIDE RAILS 60 INCHES WELDED PER LADDER
	11	WELD LADDER RUNGS AND BACK GUARD BARS 300 INCHES WELDED
	12	GRIND WELDS AND BAR ENDS TO DRESS LADDER (25FT)
	13	MATERIAL HANDLING
EAT 074	1	BURN STEEL EDGES 24 FT BURNED
	2	ARC WELD SINGLE SEAM 144 INCHES WELDED
EAT 075	1	LAY OUT AND MARK ANGLES AND PLATES (30 OCCUR)
	2	POWER HACKSAW UPRIGHTS AND CROSSARMS (10 OCCUR OF CUT 3 SQ.IN.)
	3	BURN 3/4" BASE PLATES 10 FT BURNED PER SET OF 2
	4	DRILL (FOUR) HOLES IN EACH BASE PLATE (8 OCCUR)
	5	POSITION UPRIGHTS TO BASES (4 OCCUR)
	6	POSITION CROSS SUPPORTS TO UPRIGHTS (12 OCCUR)
	7	WELD UPRIGHTS TO BASE PLATES 64 INCHES WELDED
	8	WELD CROSS SUPPORTS TO UPRIGHTS 168 INCHES WELDED
	9	MATERIAL HANDLING
EAT 076	1	MEASURE AND MARK PLATES (30 OCCUR)
	2	MACHINE BURN (2) 3/8" PLATES FOR BOTTOM 25 FT BURNED
	3	HAND BURN PIPES AND HOLES (2FT)
	4	GRIND BURNED EDGES (25FT)
	5	ROLL (3) - 1/4" PLATES SEMI-CIRCLE (25FT)
	6	WELD ACROSS BOTTOM PLATE (8FT)
	7	POSITION PLATES (5 OCCUR)
	8	POSITION INLET AND OUTLET (4 OCCUR)
	9	WELD WALL SEAMS, INSIDE AND OUTSIDE, AND INLET AND OUTLET (76")
	10	MATERIAL HANDLING
EAT 077	1	MEASURE AND MARK BARS (8 OCCUR)
	2	SHEAR BARS 12 CUTS PER SET
	3	BEND ENDS OF ROUND BARS (20 OCCUR)
	4	DRILL FLAT BARS 6 HOLES DRILLED PER SET
	5	POSITION FLAT BARS (4 OCCUR)
	6	POSITION AND WELD ROUND BARS 10 PIECES, 32 INCHES WELDED
	7	MATERIAL HANDLING

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EAT 078  1 MEASURE AND MARK ANGLES AND SEPARATORS (47 OCCUR)
         2 POWER HACKSAW ANGLES (3 SET UPS, 34 CUTS OF 3 SQ.I
           N.)
         3 SHEAR SEPARATORS BARS (30 OCCUR)
         4 WELD SEPARATORS TO ARMS 30 PIECES, 70 INCHES WELDE
           D
         5 WELD SEPARATORS TO ARMS 30 PIECES, 70 INCHES WELDE
           D
         6 WELD ARMS TO FRAME ANGLES 30 PIECES, 360 INCHES WE
           LDED
         7 ASSEMBLE AND WELD "A" FRAMES 6PIECES, 108 INCHES W
           ELDED
         8 BURN TO NOTCH CROSS BRACES (2FT )
         9 ASSEMBLE AND WELD CROSS BRACES 8 PIECES, 64 INCHES
           WELDED
        10 MATERIAL HANDLING

EAT 079  1 MEASURE AND MARK I-BEAM AND ANGLES (60 OCCUR)
         2 BURN 8" I-BEAM (6FT )
         3 POWER HACKSAW ANGLES (54 CUTS OF 3 SQ.IN.)
         4 SHEAR SEPARATOR BARS 42 SHEARS PER SET OF 3
         5 POSITION AND WELD BARS AND ANGLES 84 PIECES, 530 I
           NCHES WELDED
         6 MATERIAL HANDLING

EAT 080  1 LAY OUT A-FRAME (12 OCCUR)
         2 LAY OUT CHANNELS AND TOP PLATE (8 OCCUR)
         3 MEASURE AND MARK CHANNELS AND GUSSETS (10 OCCUR)
         4 POWER HACKSAW 3" I.D. PIPE (10 PIECES)
         5 POWER HACKSAW 2" X 2" X 5/16" ANGLES (8 OCCUR)
         6 LAY OUT PIPES (12 OCCUR)
         7 BURN 10" CHANNEL (6FT )
         8 BURN PIECES AND PLATES (28FT )
         9 DRILL ANGLES AND BASE PLATES 20 HOLES DRILLED
        10 POSITION CHANNELS (4 OCCUR)
        11 POSITION PIPES AND TOP PLATES (12 OCCUR)
        12 POSITION ANGLES, PLATES AND GUSSETS (10 OCCUR)
        13 WELD PIPES, PLATES, AND ANGLES 396 INCHES WELDED
        14 BOLT GIRDER TO "A-FRAME" PLATES (12 OCCUR)
        15 MOVE, SET UP AND TAKE DOWN STEP LADDER (2 OCCUR)
        16 CLIMB UP AND DOWN LADDER (12 OCCUR)
        17 MATERIAL HANDLING

EAT 081  1 POSITION AND WELD BUMPER TO LOADING DOCK (26")

EAT 082  1 MEASURE AND MARK FOR CUTTING (2 OCCUR)
         2 SHEAR MEDIUM SIZE EXPANDED METAL SHEET
         3 MEASURE AND MARK STOCK (4 OCCUR)
         4 CUT BAR ON POWER HACKSAW *3"SQ.THEREFORE 4/8 OCCUR
           FOR SAW TIME
         5 MEASURE AND MARK HOLE PER FOOT (ONE HOLE PER PERIM
           ETER FOOT)
         6 CENTER PUNCH EACH HOLE LOCATION PER FOOT
         7 PUNCH ONE HOLE PER FOOT (OF PERIMETER)
         8 DEBUR HOLE ONE SIDE WITH FILE
         9 POSITION 4 BARS TO STOPS/LINE/TEMPLET
        10 TACK WELD BARS 4 PLACES TO FORM FRAME AND MAINTAIN
           DIMENSIONS
        11 TURN FRAME 180 DEG. (2 OCCUR)
        12 MOVE AS REQUIRED TO WELD
        13 WELD FRAME 4 PLACES = 6"
        14 GET POSITION EXPANDED METAL TO FRAME
        15 TACK WELD 36 TACKS PER 15.5 FEET OR 2.323 TACKS PE
           R FOOT
        16 TURN FRAME 180 DEG. TWO TIMES
```

17 FLIP FRAME OVER
18 WELD FRAME 4 PLACES = 6"
19 MOVE AS REQUIRED TO WELDS
20 TURN FRAME 180 DEG. TWO TIMES
21 ASIDE FRAME TO CART

EAT 083 1 WELD 1 INCH DIAMETER STEEL GAS LINE
2 MATERIAL HANDLING

EAT 084 1 PICK UP SCRAP STOPS 8 PIECES
2 TACK STOPS IN POSITION
3 WALK TO CORNER LOCATIONS 4 LOCATIONS 10 FOOT EACH MAKING MEASUREMENTS AND CHALK MARK LOCATIONS
4 MEASURE AND MARK MATERIAL FOR CUTTING
5 MEASURE 6"LOCATIONS & ALL OTHER ASSEMBLY LOCATIONS (38 PLACES TOTAL)
6 MARK ALL 6" & OTHER ASSEMBLY LOCATIONS (TOTAL 38 P LACES)

EAT 085 1 SHEAR 18 RODS (CUT 3 PIECES PER SHEAR)
2 SHEAR ANGLE IRON (1/4 X 1.5 X 1.5 ANGLE) 4 PIECES PER SCREEN
3 SHEAR 1/4"X2"X7" STOCK FOR MOUNTING CLIPS CUT 2 PI ECES PER SHEAR OF BAR STOCK
4 PUNCH HOLES IN CLIPS (6 CLIPS)
5 BEND CLIPS TO 90 DEGREES (6 PIECES)
6 WELD TABS TO FRAME (6"PER CLIP INCLUDING TOP AND BOTTOM WELDS) 6 PIECES
7 LAYOUT AND WELD STOPS FOR TEMPORARY WELD TABLE FIX TURE
8 ASSEMBLE AND WELD FRAME FOR SCREEN (4 PIECES , 6")
9 POWER PUNCH HOLES IN ANGLES OR BARS 1 HOLE PER FOO T (IRON WORKER MACHINE) 18HLS/SCREEN
10 ASSEMBLE AND WELD BARS IN FRAME AND WELD ROD INTER SECTIONS WITH TWO 3/8" TACKS, (3/8"X180=68")
11 WALK TO WELD EACH POSITION (WALK 36 TIMES 10FT DUR ING WELDING)

EAT 086 1 MATERIAL HANDLING
2 SET UP AND MOVE LADDER, CLIMB UP AND DOWN (2 LADDE RS 2 MEN)
3 WALK WITH EACH SCREEN TO INSTALL (24FT)
4 INSTALL SCREEN IN OPENING
5 ALIGN ENDS OF SCREEN
6 ONE MAN HOLD LADDER WHILE OTHER WORKS ON LADDER
7 MOVE LADDER TO ACCOMPLISH INSALLATION
8 WALK 10FT TO ACCOMPLISH MOVES
9 CLIMB AND DESEND LADDER
10 GET DRILL FROM TRUCK
11 SET UP DRILL FOR HOLES
12 DRILL 14 HOLES
13 BLOW DUST FROM HOLES
14 HAMMER ANCHORS IN HOLES
15 TIGHTEN NUTS TO SET STUDS
16 LOOSEN AND TIGHTEN NUTS TO AJUST
17 TACK WELD 1/2"DIA.BOLTS
18 WELD CENTER SECTION ANGLES (2" FOUR PLACES)
19 MOVE LADDER TO NEXT LOCATION

EAT 087
1 FABRICATE PATCH AND FIT TO PIPE
2 PRONE POSITION BODY TO WELD PATCH IN HIGHLY CRAMPED AREA (12" FROM FLOOR 1"AWAY ANGLE OBSTRUCTION ,
3 REPOSITION BODY TO CONTINUE WELD
4 MOVE FROM UNDER LINE ON BACK
5 ASSEMBLE AND WELD PATCH 18"WELD AND ADDITIONAL 18" PASS

EAT 088
1 DRAIN TANK
2 FABRICATE PATCH AND FIT TO TANK
3 FLAT ON BACK ,PRONE POSITION BODY, CRAMPED AREA TO WELD PATCH
4 REPOSITION BODY TO CONTINUE WELD
5 MOVE FROM UNDER TANK, EXIT ON BACK
6 ASSEMBLE AND WELD PATCH 18" WELD AND ADDITIONAL 18 " PASS
7 FILL TANK AND TEST FOR LEAKS

EAT 089
1 (ON BACK) PRONE POSITION BODY FOR CRAMPED AREA TO CUT 6" DIA. PIPE
2 REPOSITION BODY
3 MARK PIPE FOR CUTTING
4 HAND BURN 6"DIA. SCHEDULE 40 PIPE
5 (ON BACK) PRONE POSITION BODY FOR CRAMPED AREA
6 REPOSITION BODY

EAT 090
1 (ON BACK) PRONE POSITION BODY FOR CRAMPED AREA
2 REPOSITION BODY
3 HAND BURN CHAMFER ON 6"DIA.PIPE
4 GRIND FINISH ON CHAMFER

EAT 091
1 ASSEMBLE AND WELD ONE SEAM OF JOINT OF 6" DIA. PIPE SCHEDULE 40
2 (ON BACK) PRONE POSITION BODY FOR CRAMPED AREA
3 REPOSITION BODY TO CONTINUE WORK

EAT 092
1 CUT PIPE TWO PLACES
2 CHAMFER JOINT AND GRIND TWO PLACES
3 INSTALL (WELD TWO JOINTS) NEW ELBOW

EAT 093
1 SHEAR 12 RODS (CUT 3 PER SHEAR)
2 SHEAR ANGLE IRON (1/4"X 1 1/2" X 1 1/2") 4 PIECES PER SCREEN
3 SHEAR 1/4"X 2" X 7" STOCK FOR MOUNTING CLIPS CUT 2 PIECES PER SHEAR OF BAR STOCK
4 PUNCH HOLES IN CLIPS (6 CLIPS)
5 BEND CLIPS TO 90 DEGREES (6 PIECES)
6 WELD TABS TO FRAME (6" PER CLIP INCLUDING TOP AND BOTTOM WELDS) 6 PIECES
7 LAYOUT AND WELD STOPS FOR TEMPORARY WELD TABLE FIXTURE
8 ASSEMBLE AND WELD FRAME FOR SCREEN (4 PIECES, 6")
9 POWER PUNCH HOLES IN ANGLES AND BARS , 1 HOLE PER FOOT, (IRON WORKER MACHINE) 12 HOLES
10 ASSEMBLE AND WELD BARS IN FRAME AND WELD ROD INTER SECTIONS WITH TWO 3/8" WELDS
11 WALK TO WELD EACH POSITION (WALK 5 FOOT, 36 TIMES DURING WELDING)

EAT 094
1 SHEAR 16 RODS (CUT 3 PIECES PER SHEAR)
2 SHEAR ANGLE IRON (1/4"X 1 1/2"X 1 1/2") 4 PIECES PER SCREEN
3 SHEAR 1/4"X 2"X 7" STOCK FOR MOUNTING CLIPS CUT 2 PIECES PER SHEAR OF BAR STOCK
4 PUNCH HOLES IN CLIPS (6 CLIPS)
5 BEND CLIPS TO 90 DEGREES (6 PIECES)
6 WELD TABS TO FRAME (6" PER CLIP INCLUDING TOP AND BOTTOM WELDS) 6 PIECES
7 LAYOUT AND WELD STOPS FOR TEMPORARY WELD TABLE FIXTURE
8 ASSEMBLE AND WELD FRAME FOR SCREEN
9 POWER PUNCH HOLES IN ANGLES OR BARS
10 ASSEMBLE AND WELD BARS IN FRAME AND WELD ROD INTERSECTIONS WITH TWO 3/8" WELDS

EAT 095
1 MATERIAL HANDLING
2 SET UP AND MOVE LADDER
3 WALK WITH SCREEN TO INSTALL
4 INSTALL SCREEN IN OPENING
5 ALIGN ENDS OF SCREEN IN WINDOW
6 MOVE LADDER TO ACCOMPLISH INSTALLATION
7 WALK TO ACCOMPLISH MOVES
8 CLIMB AND DESEND LADDER
9 GET DRILL FROM TRUCK
10 SET UP DRILL FOR HOLES
11 DRILL 10 HOLES
12 BLOW DUST FROM HOLES
13 HAMMER ANCHORS IN HOLES
14 TIGHTEN NUTS TO SET STUDS
15 LOOSEN AND TIGHTEN NUTS AND ADJUST
16 TACK WELD 1/2"DIA.BOLTS
17 MOVE LADDER TO NEXT LOCATION

EAT 096
1 INSTALL 3FT X4FT ARMORY SECURITY BAR SCREEN; 6" MESH; CONCRETE BLDG....ATTACHMENT DESIGN: 1/2"DIA.HO
2 ONE MAN HOLDS LADDER WHILE OTHER MAN WORKS

EAT 097
1 MATERIAL HANDLING
2 SET UP AND MOVE LADDER
3 WALK WITH EACH SCREEN TO INSTALL
4 INSTALL SCREEN IN OPENING
5 ALIGN ENDS OF SCREEN
6 MOVE LADDER TO ACCOMPLISH INSTALLATION
7 WALK 10FT TO ACCOMPLISH MOVES
8 CLIMB AND DESEND LADDER
9 GET DRILL FROM TRUCK
10 SET UP DRILL FOR HOLES
11 DRILL 14 HOLES
12 BLOW DUST FROM HOLES
13 HAMMER ANCHORS IN HOLES
14 TIGHTEN NUTS TO SET STUDS
15 LOOSEN AND TIGHTEN NUTS AND AJUST
16 TACK WELD 1/2"DIA. BOLTS
17 MOVE LADDER TO NEXT LOCATION

EAT 098 1 INSTALL (3 1/2FT X 5 1/2FT) AROMRY SECURITY BAR S
CREEN
2 ONE MAN HOLDS LADDER WHILE OTHER WORKS

EAT 099 1 BURN OUT OLD SECTION
2 BURN CHAMFER ON PIPE THAT RECEIVE SECTION
3 MARK PIPE SECTION FOR CUTTING
4 HAND BURN 6" DIA. SCHEDULE 40 PIPE
5 HAND BURN CHAMFER TWO ENDS
6 FINISH GRIND CHAMFER
7 MATERIAL HANDLING
8 WELD 2 JOINTS OF INSERT SECTION

EAT 100 1 TACK WELD 5/8" LONG WELD ON REBAR JOINTS - PER JOI
NT. ONE TACK PER JOINT. (TWO MEN)

EAT 102 1 MEASURE AND MARK FOR CUT OFF STOP
2 GET CLAMP AND ASIDE STOP FOR CUTOFF LENGTH
3 BANDSAW CUT 2.5"X.25" BAR STOCK OR 6.3CM X .63C
M BAR STOCK
4 DEBURR EDGES 27CM PER HANGER
5 WALK 2 PACES PER HANGER
6 MATERIAL HANDLING
7 GET USE AND ASIDE CLAMP
8 DRILL 14MM HOLE IN HANGER
9 HAND DEBURR HOLE 2 SIDES

EAT 103 1 WALK 18 STEPS TO GET MATL. 2 TRIPS 2 MEN =72 STEPS
2 LAYOUT JIG DIMENSIONS MEASURE & MARK 6 DIMENSIONS
MEASURE & MARK 10 STOPS
3 GET CLAMP AND ASIDE ANGLE STOPS
4 BAND SAW CUT ANGLE IRON 10 CUTS
5 TACK WELD 10 ANGLES 2 PLACES EACH = 20 TACKS
6 BURN OFF ANGLES TO DISASSEMBLE JIG 20 BURNS
7 MATERIAL HANDLING

EAT 107 1 WELD 4 MITER JOINTS AND 2 CENTER T JOINTS OF FRAME
4 CORNERS = 20" T JOINTS = 10"
2 GRIND WELDS 5"X4"=20"
3 REMOVE FRAME FROM JIG
4 WALK 3 STEPS 6 MOVES =18
5 TURN PART 4 TIMES

EAT 109 1 MEASURE, CUT & GRIND ANGLE IRON FOR SECURITY SCREE
N. MATL.=3/16"X2"X2" ANGLE & TEE ANGLE INCLUDES: M
2 FABRICATE CLIP 3/16"X2.3"X6" WITH 1/2"DRILLED HOLE
INCLUDES: BAND SAW CUT, DRILL & DEBURR ((NOTE NO.
3 FABRICATE WELD JIG TO ASSEMBLE SECURITY SCREEN INC
LUDES:LAYOUT JIG FOR FRAME,CUT AND TACK WELD 10 ST
4 MEASURE AND CUT WOVEN METAL SCREEN WITH BOLT CUTTE
RS CUT 1 PIECE 79"X41" REQ= 2 1ST CUTS, 78 ADDL1 C
5 USING JIG ASSEMBLE, WELD MITERED FRAME 79"X82", 3/
16"X2"X2" ANGLE IRON AND TEE ANGLE IN CENTER INCLU
6 WELD 3/16"D WIRE WOVEN SCREEN TO FRAME 2 WOVEN PAN
ELS 79"X41"= 240" WELDED EACH 3"= 80 WELDS PER PA
7 ASSEMBLE AND WELD MOUNTING CLIPS TO SECURITY SCREE
N FRAME (6 EACH NORMALLY)

LAT 001
1 SIMPLE LAY-OUT
2 SHEAR PIECES 1 PIECE AND 2 SHEAR
3 LAY-OUT FROM TEMPLATE AND SHEAR WITH HAND SNIPS 2 LAYOUTS, 10 LINES LAID OUT, AND 20 INCHES SHEAR
4 FORM PITTSBURGH LOCK SEAM / SECTION 1 SEAM 4 FEET IN LENGTH
5 BEND TO FORM & STIFFEN SIDES AND FORM JOINT TABS 2 PIECES AND 20 BENDS PER SECTION
6 ASSEMBLE AND CLOSE, PITTSBURGH SEAM SEAM LENGTH - 48 INCHES
7 MATERIAL HANDLING

LAT 002
1 SIMPLE LAY-OUT
2 SHEAR PIECES 1 PIECE AND 2 SHEAR PER SECTION
3 LAY-OUT FROM TEMPLATE & SHEAR WITH HAND SNIPS 2 LA YOUTS, 10 LINES LAID OUT, AND 20 INCHES SHEAR PER
4 FORM PITTSBURGH LOCK SEAM PER SECTION 1 SEAM 8 FT IN LENGTH
5 BEND TO FORM & STIFFEN SIDES AND FORM JOINT TABS 2 SHEETS AND 20 BENDS PER SECTION
6 ASSEMBLE & CLOSE PITTSBURGH SEAM SEAM LENGTH - 96 INCHES
7 MATERIAL HANDLING

LAT 003
1 SIMPLE LAY-OUT
2 SHEAR PIECES 1 PIECE AND 2 SHEARS PER SECTION
3 LAY-OUT FROM TEMPLATE & SHEAR WITH HAND SHEARS 2 L AYOUTS, 10 LINES LAID OUT, AND 20 INCHES SHEARED P
4 FORM PITTSBURGH LOCK SEAM 1 SEAM 4 FEET IN LENGTH
5 BEND TO FORM & STIFFEN SIDES AND FORM JOINT TABS 2 PIECES AND 20 BENDS PER SECTION
6 ASSEMBLE & CLOSE PITTSBURGH SEAM SEAM LENGTH - 48 INCHES
7 MATERIAL HANDLING

LAT 004
1 SIMPLE LAY-OUT
2 SHEAR PIECES PER SECTION 2 SHEETS AND 4 SHEARS PER SECTION
3 LAY-OUT FROM TEMPLATE & SHEAR WITH HAND SNIPS 4 LA YOUTS, 12 LINES LAID OUT, AND 24 INCHES SHEARED PE
4 FORM PITTSBURGH LOCK SEAM PER SECTION 2 SEAMS 8 FT IN LENGTH - 16 FEET TOTAL
5 BEND TO FORM & STIFFEN SIDES AND FORM JOINT TABS 2 PIECES AND 20 BENDS PER SECTION
6 ASSEMBLE & CLOSE PITTSBURGH SEAM 2 SEAMS, TOTAL LE NGTH = 192 INCHES
7 MATERIAL HANDLING

LAT 005
1 SIMPLE LAY-OUT
2 SHEAR PIECES 2 PIECES AND 4 SHEARS PER SECTION
3 LAY-OUT FROM TEMPLATE & HAND SHEAR 4 LAYOUTS, 12 L INES LAID OUT, AND 24 INCHES SHEARS PER SECTION
4 FORM LOCK SEAMS 2 SEAMS 4 FT IN LENGTH - TOTAL LEN GTH = 8 FT
5 BEND TO FORM & STIFFEN SIDE & FORM JOINT TABS 2 PI ECES AND 20 BENDS PER SECTION
6 ASSEMBLE & CLOSE LOCK SEAM 2 SEAMS 48 INCHES EACH - TOTAL LENGTH = 96 INCHES
7 MATERIAL HANDLING

LAT 006 1 SIMPLE LAY OUT
2 SHEAR PIECES 2 PIECES AND 4 SHEARS PER SECTION
3 LAY OUT FROM TEMPLATE & HAND SHEAR 4 LAYOUTS, 12 LINES LAID OUT, AND 24 INCHES SHEARED PER SECTION
4 FORM LOCK SEAMS 2 SEAMS 8 FT EACH - TOTAL LENGTH = 8 FT
5 BEND TO FORM & STIFFEN SIDES & FORM JOINT TABS 2 PIECES AND 20 BENDS EACH SECTION
6 ASSEMBLE & CLOSE LOCK SEAM 2 SEAMS 96 IN EACH - TOTAL LENGTH = 192 IN
7 MATERIAL HANDLING

LAT 007 1 SIMPLE LAY OUT
2 SHEAR MEDIUM SHEET 1 PIECE AND 2 SHEARS PER SECTION
3 ROLL FORM LOCK SEAM - 6 FT FORMED PER SECTION
4 ROLL SECTION IN COMPLETE CIRCLE 1 PIECE PER SECTION AND 3.14 LF ROLLED PER SECTION * (PI)(DIAMETER)
5 ASSEMBLE & CLOSE LOCK SEAM 1 SEAM 3 FT IN LENGTH, TOTAL OF 12 CENTER PUNCHES
6 CRIMP 2 ENDS
7 MATERIAL HANDLING (2 MEN)

LAT 008 1 SIMPLE LAY-OUT
2 SHEAR MEDIUM SHEET 1 PIECE AND 2 SHEARS PER SECTION
3 ROLL FORM LOCK SEAM/FOOT - 6 FT OF SEAM FORMED
4 ROLL SECTION IN COMPLETE CIRCLE 1 PIECE PER SECTION AND 6.28 LF ROLLED PER SECTION * (PI)(DIAMETER)
5 ASSEMBLE & CLOSE LOCK SEAM 1 SEAM 3 FT IN LENGTH, TOTAL OF 12 CENTER PUNCHES
6 CRIMP BOTH ENDS
7 MATERIAL HANDLING (2 MEN)

LAT 009 1 SIMPLE LAY OUT
2 SHEAR MEDIUM SHEET 1 PIECE AND 2 SHEARS PER SECTION
3 ROLL FORM LOCK SEAM - 6 FT OF SEAM FORMED
4 ROLL SECTION IN COMPLETE CIRCLE 1 PIECE PER SECTION AND 7.85 LF ROLLED PER SECTION * (PI)(DIAMETER)
5 ASSEMBLE & CLOSE LOCK SEAM 1 SEAM 3 FT IN LENGTH, 12 CENTER PUNCHES TOTAL
6 CRIMP BOTH ENDS
7 MATERIAL HANDLING (2 MEN)

LAT 010 1 LAY OUT ELBOW
2 SHEAR PIECES 3 SHEETS AND 6 SHEARS PER ELBOW
3 LAY OUT SIDE WITH TEMPLATE & SHEAR WITH TIN SNIPS 2 LAYOUTS PER ELBOW, 2 LINES PER LAYOUT, AND 30 IN
4 FORM LOCK SEAM 4 SEAMS 8 FT TOTAL LENGTH
5 BEND TOP & BOTTOM SHEETS, DRIVE LOCK & VANES 6 PIECES AND 22 BENDS PER ELBOW
6 ROLL TURNING VANES IN SEMI-CIRCLE 3 ROLLED PIECES PER ELBOW - 1 LF ROLLED PER PIECE
7 ASSEMBLE & CLOSE LOCK SEAM 4 SEAMS 96 INCHES TOTAL LENGTH
8 DRILL HOLES & INSTALL 18 RIVETS FOR VANES 18 RIVETS INSTALLED PER ELBOW,.1"DRILLED PER RIVET
9 PICK UP & POSITION PARTS
10 MATERIAL HANDLING

LAT 011
1 LAY OUT ELBOW
2 SHEAR PIECES 4 PIECES AND 8 SHEARS
3 LAY OUT "CHECK" WITH TEMPLATE & SHEAR WITH HAND SNIPS - 3 LAYOUTS, 2 LINES PER LAYOUT, 36 IN SHEARED
4 FORM PITTSBURGH LOCK SEAM 4 SEAMS 13 FT TOTAL LENGTH
5 BEND ELBOW "THROAT", WRAPPER, TURNING VANES AND CHECK TABS, 8 PIECES AND 16 BENDS PER ELBOW
6 ROLL TURNING VANES SEMI-CIRCLE 3 PIECES ROLLED PER ELBOW-1.67 FT ROLLED PER PIECE
7 ASSEMBLE & CLOSE LOCK SEAM 4 SEAMS 156 INCHES TOTAL LENGTH
8 DRILL HOLES & INSTALL 24 RIVETS TO SECURE TURNING VANES (.1"DRILLED PER RIVET)
9 PICK UP & POSITION PIECES
10 MATERIAL HANDLING

LAT 012
1 LAY OUT FOR ELBOW
2 SHEAR BLANKS 2 PIECES AND 7 SHEARS PER ELBOW
3 MARK FROM TEMPLATE 2 LAYOUTS PER ELBOW, 2 LINES PER LAYOUT
4 CUT RADIUS ON CHECKS 2 PIECES PER ELBOW, 13 FEET SHEARED
5 NOTCH FOR CORNERS 16 NOTCHES PER ELBOW
6 BEND FOR SLIP JOINTS 8 BENDS PER ELBOW
7 FORM PITTSBURGH LOCK 4 SEAMS 13 FEET TOTAL LENGTH
8 ROLL PIECES 2 PIECES PER ELBOW, 3.25 LF ROLLED PER PIECE
9 TURN 1/4" ON CHECKS FOR LOCK JOINT
10 CLOSE LOCK SEAM 4 SEAMS 156 INCHES TOTAL LENGTH
11 MATERIAL HANDLING

LAT 013
1 INITIAL LAY OUT
2 LAY OUT FROM TEMPLATE & HAND SHEAR 5 LAYOUTS, 2 LINES PER LAYOUT,480"LINE PER ELBOW
3 ROLL PIECE FULL CIRCLE 5 PIECES PER ELBOW, 4.8 LF ROLLED PER PIECE= 24FT
4 ROLL EDGES OF ELBOW SECTION (8 OCCUR)
5 POSITION SECTIONS (10 OCCUR)
6 DRILL HOLES & INSTALL RIVETS (60) 60 RIVETS INSTALLED PER ELBOW-.1"DRILLED PER RIVET
7 CRIMP ONE END OF ELBOW
8 MATERIAL HANDLING

LAT 014
1 LAY OUT ELBOW
2 LAY OUT FROM TEMPLATE & HAND SHEAR 5 LAYOUTS PER ELBOW, 2 LINES PER LAYOUT,720"CUT
3 ROLL PIECES IN FULL CIRCLE 5 PIECES PER ELBOW, 8 LF ROLLED PER PIECE
4 ROLL EDGES OF ELBOW SECTION AND CRIMP ONE END OF ELBOW (9 OCCUR)
5 POSITION SECTIONS (10 OCCUR)
6 DRILL HOLES & INSTALL RIVETS 104 RIVETS INSTALLED PER ELBOW-.1"DRILLED PER RIVET
7 MATERIAL HANDLING

LAT 015
1 LAY OUT TEMPLATE
2 SHEAR PIECES 4 PIECES AND 10 SHEARS PER OFFSET
3 LAY OUT FROM TEMPLATE & HAND SHEAR 4 LAYOUTS & 50" CUT PER OFFSET, 2 LINES PER LAYOUT,
4 NOTCH FOR BENDS & TABS 50 NOTCHES PER OFFSET
5 FORM PITTSBURGH LOCK SEAM 8 SEAMS 10 FT TOTAL LENGTH
6 BEND TO FORM HOOD 76 BENDS PER OFFSET
7 ROLL COLLAR
8 HAMMER TO BEND NECK TABS (80 OCCUR)
9 ASSEMBLE & CLOSE LOCK SEAMS 8 SEAMS 120 INCHES TOTAL LENGTH
10 DRILL & RIVET NECK PIECE 10 RIVETS INSTALLED PER OFFSET-.1"DRILLED PER RIVET
11 SOLDER NECK PIECE
12 MATERIAL HANDLING

LAT 016
1 TEMPLATE LAY OUT
2 SHEAR PIECES 4 PIECES AND 10 SHEARS PER TRANSITION
3 LAY OUT FROM TEMPLATE & HAND SHEAR 4 LAYOUTS PER TRANSITION, 3 LINES PER LAYOUT, AND 60 INCHES SHEAR
4 MAKE BENDS 104 BENDS PER TRANSITION
5 ROLL COLLAR
6 FORM LOCK SEAM 10 SEAMS 15 FT TOTAL LENGTH
7 HAMMER TO BEND NECK TABS
8 ASSEMBLE & CLOSE LOCK SEAM 10 SEAMS 180 INCHES TOTAL LENGTH
9 DRILL HOLES & INSTALL SCREWS 10 SCREWS INSTALLED PER TRANSITION .1 IN DRILLED PER SCREW
10 MATERIAL HANDLING

LAT 017
1 FABRICATE TRANSITION
2 SOLDER JOINTS 134 INCHES SOLDERED

LAT 018
1 LAY OUT REDUCER TEMPLATE
2 SHEAR PIECES 4 SHEETS AND 8 SHEARS
3 LAY OUT FROM TEMPLATE & HAND SHEAR 3 LAYOUTS PER REDUCER, 2 LINES PER LAYOUT, 128 INCHES SHEARS PER
4 FORM LOCK SEAMS 4 SEAMS 12 FT TOTAL LENGTH
5 BEND TO FORM & STIFFEN SIDES AND TO FORM DRIVE LOCK TABS - 20 BENDS PER REDUCER
6 POSITION PIECES
7 ASSEMBLE & CLOSE LOCK SEAM 4 SEAMS 120 INCHES TOTAL LENGTH
8 MATERIAL HANDLING

LAT 019
1 LAY OUT REDUCER TEMPLATE
2 SHEAR PIECES 4 PIECES AND 8 SHEARS
3 LAY OUT FROM TEMPLATE & HAND SHEAR 4 LAYOUTS PER REDUCER, 2 LINES PER LAYOUT, 192 INCHES SHEARED PER
4 FORM LOCK SEAMS 4 SEAMS 16 FT TOTAL LENGTH
5 BEND TO FORM AND STIFFEN SIDES AND TO FORM DRIVE LOCK TABS 20 BENDS PER REDUCER
6 POSITION PIECES
7 ASSEMBLE & CLOSE LOCK SEAMS 4 SEAMS 192 INCHES TOTAL LENGTH
8 MATERIAL HANDLING

LAT 020
1 LAY OUT TEMPLATE
2 SHEAR PIECES 2 PIECES AND 4 SHEARS
3 LAY OUT FROM TEMPLATE & HAND SHEAR 2 LAYOUTS PER REDUCER, 5 LINES PER LAYOUT, 300 INCHES SHEARED PER
4 FORM LOCK SEAMS (USE ROLL FORMER) 2 SEAMS, 2 SEAM RUNS PER SEAM, 16 FT TOTAL LENGTH
5 ROLL PIECES - HALF CIRCLE 2 PIECES 8 FT TOTAL LENGTH
6 ASSEMBLE SECTIONS
7 CLOSE LOCK SEAM 2 SEAMS 96 INCHES TOTAL LENGTH
8 DRILL HOLES & INSTALL 40 SCREWS 40 SCREWS INSTALLED PER REDUCER .1 INCH DRILLED PER HOLE
9 CRIMP ONE END
10 MATERIAL HANDLING

LAT 021
1 FABRICATE REDUCER
2 SOLDER JOINTS 2 JOINTS 96 INCHES TOTAL LENGTH SOLDERED

LAT 022
1 LAY OUT OFFSET TEMPLATE 240 INCHES PUNCHED
2 SHEAR PIECES 2 PIECES AND 6 SHEARS
3 LAY OUT FROM TEMPLATE & HAND SHEAR 2 LAYOUTS PER OFFSET, 4 LINES PER LAYOUT, 240 INCHES SHEARED PER
4 MAKE BENDS, SIDES & TABS 20 BENDS PER OFFSET
5 FORM LOCK SEAMS 4 SEAMS 20 FT TOTAL LENGTH
6 POSITION PIECES
7 ASSEMBLE & CLOSE LOCK SEAMS 4 SEAMS 240 INCHES TOTAL LENGTH
8 MATERIAL HANDLING

LAT 023
1 LAY OUT OFFSET TEMPLATE
2 SHEAR PIECES 3 PIECES AND 6 SHEARS
3 LAY OUT TEMPLATE & HAND SHEAR 2 LAYOUTS PER OFFSET, 5 LINES PER LAYOUT, 120 INCHES SHEARED PER OFFSE
4 FORM SINGLE LOCK SEAM 2 SEAMS, 2 RUNS PER SEAM, 8 FT TOTAL LENGTH
5 ROLL PIECES FULL CIRCLE 3 PIECES ROLLED, 2 FT PER PIECE
6 BEND EDGE FOR FIT & CRIMP ONE END
7 POSITION PIECES
8 ASSEMBLE & CLOSE LOCK SEAMS 3 SEAMS PER OFFSET
9 DRILL HOLES & INSTALL 12 RIVETS 12 RIVETS INSTALLED PER OFFSET .1 INCHES DRILLED PER RIVET
10 MATERIAL HANDLING

LAT 024
1 LAY OUT OFFSET
2 SHEAR PIECES 1 PIECE AND 5 SHEARS
3 LAY OUT FROM TEMPLATE & HAND CUT 2 LAYOUTS PER OFFSET, 2 LINES PER LAYOUT, 144 INCHES SHEARED PER OF
4 ROLL PIECES 2 PIECES, 6 FT TOTAL LENGTH ROLLED
5 FORM LOCK SEAM 4 SEAMS 12 FT TOTAL LENGTH
6 TURN 1/4" ON SIDES FOR LOCK JOINT
7 POSITION PIECES
8 ASSEMBLE & CLOSE LOCK SEAMS 4 SEAMS 144 INCHES TOTAL LENGTH
9 MATERIAL HANDLING

LAT 025
1 LAY OUT FITTING
2 SHEAR BLANKS 1 PIECE AND 4 SHEARS
3 LAY OUT FROM TEMPLATE 1 LAYOUT PER TAP-IN, 2 LINES PER LAYOUT
4 CUT PATTERN WITH PULMAX
5 NOTCH FOR TABS AT JOINT
6 FORM SINGLE LOCK SEAM 1 SEAM, 4 SEAM RUNS PER SEAM , 10 FT TOTAL LENGTH
7 ROLL CYLINDERS 2 PIECES AND 6 FT TOTAL LENGTH ROLL ED
8 CLOSE LOCK SEAM 2 SEAMS CLOSED
9 DRILL AND INSTALL RIVETS 20 RIVETS INSTALLED PER T AP-IN .1 INCH DRILLED PER RIVET
10 SOLDER SEAMS 2 JOINTS, 80 INCHES TOTAL LENGTH SOLD ERED
11 MATERIAL HANDLING

LAT 026
1 LAY OUT FOR TEE
2 SHEAR PIECES 2 PIECES AND 4 SHEARS
3 LAY OUT FROM TEMPLATE 1 LAYOUT PER TEE, 3 LINES PE R LAYOUT, AND 16 INCHES SHEARED
4 CUT OUT LINE ON PULMAX 1 SETUP PER TEE, 2 PIECES P ER TEE, AND 10 FT SHEARED PER TEE
5 ROLL SINGLE LOCK SEAMS 1 SETUP PER TEE, 6 PIECES P ER TEE, AND 16 FT TOTAL LENGTH OF SEAM PER TEE
6 ROLL TO FORM CYLINDERS 1 SETUP PER TEE, 1 ADDL PIE CE PER TEE, AND 9 FT TOTAL LENGTH ROLLED
7 ASSEMBLE & CLOSE LOCK SEAMS 3 SEAMS CLOSED
8 NOTCH FOR TABS
9 DRILL & INSTALL 20 SCREWS 20 SCREWS INSTALLED PER TEE .1 IN DRILLED PER SCREW
10 CRIMP ENDS
11 MATERIAL HANDLING

LAT 027
1 LAY OUT FOR TEE
2 SHEAR PIECES 2 PIECES AND 6 SHEARS
3 LAY OUT TEE FROM TEMPLATE 3 LAYOUTS PER TEE 16 TOT AL LINES PER TEE
4 CUT OUT LINE ON PULMAX 2 PIECES PER TEE AND 10 FT SHEARED PER TEE
5 ROLL SINGLE LOCK SEAMS 6 PIECES PER TEE AND 16 FT SEAM ROLLED PER TEE
6 ROLL TO FORM CYLINDERS 1 ADDL PIECE PER TEE AND 9 FT ROLLED PER TEE
7 ASSEMBLE & CLOSE LOCK SEAMS 3 SEAMS CLOSED
8 NOTCH FOR TABS
9 DRILL AND INSTALL RIVETS 10 RIVETS INSTALLED PER T EE .1 INCH DRILLED PER RIVET
10 SOLDER JOINTS 56 INCHES SOLDERED PER TEE
11 CRIMP ENDS
12 MATERIAL HANDLING

LAT 028
1 LAY OUT TEE - TEMPLATES
2 SHEAR PIECES 2 PIECES AND 4 SHEARS
3 LAY OUT FROM TEMPLATE & LAND SHEAR 3 LAYOUTS PER TEE, 8 TOTAL LINES PER TEE, AND 140 INCHES SHEARED
4 ROLL SINGLE LOCK SEAMS 4 PIECES AND 16 FT ROLLED PER TEE
5 ROLL TO FORM CYLINDERS 1 ADDL PIECE AND 9 FT ROLLED PER TEE
6 ASSEMBLE & CLOSE LOCK SEAMS 2 SEAMS CLOSED
7 NOTCH FOR TABS
8 DRILL & INSTALL 30 SCREWS 30 SCREWS INSTALLED PER TEE .1 INCH DRILLED PER SCREW
9 SOLDER JOINT 90 INCHES SOLDERED
10 CRIMP ENDS
11 MATERIAL HANDLING

LAT 029
1 LAY OUT TEE TEMPLATE
2 SHEAR PIECES 3 PIECES AND 6 SHEARS
3 LAY OUT FROM TEMPLATE & HAND SHEAR 4 LAYOUTS PER TEE, 3 LINES PER LAYOUT, AND 80 INCHES SHEARED PER
4 FORM PITTSBURGH LOCK SEAM 6 PIECES PER TEE AND 14 FT OF LOCK SEAM PER TEE
5 BEND FOR DRIVE LOCK TABS & PITTSBURGH LOCK SEAM 18 BENDS PER TEE
6 POSITION PIECES
7 ASSEMBLE & CLOSE PITTSBURGH LOCK SEAM 10 SEAMS PER TEE AND 168 TOTAL INCHES OF SEAM CLOSED
8 MATERIAL HANDLING

LAT 030
1 LAY OUT TEMPLATE FOR TEE
2 SHEAR PIECES 4 PIECES AND 10 SHEARS
3 NOTCH FOR BENDS
4 LAY OUT FROM TEMPLATE & HAND SHEAR 4 LAYOUTS PER TEE, 3 LINES PER LAYOUT, AND 100 INCHES SHEARED PER
5 FORM PITTSBURGH LOCK SEAMS 6 PIECES PER TEE AND 18 FT SEAM PER TEE
6 BEND PIECE FOR DRIVE LOCK TABS AND PITTSBURGH LOCK SEAM 14 BENDS PER TEE
7 TURN RADIUS EDGES
8 POSITION PIECES
9 ASSEMBLE & CLOSE PITTSBURGH LOCK SEAM 6 SEAMS AND 216 INCHES OF SEAM CLOSED PER TEE
10 MATERIAL HANDLING
11 MATERIAL HANDLING

LAT 031
1 SHEAR BLANKS 1 PIECE AND 7 SHEARS
2 LAY OUT FOR BRANCH FITTING
3 CUT METAL WITH PULLMAX
4 BEND FOR SINGLE LOCK COLLARS 8 BENDS PER BRANCH
5 ROLL TO SHAPE
6 HAMMER TO BEND TABS
7 POSITION PIECES
8 "CRIMP TURN" FLANGES FOR COLLARS
9 DRILL HOLES AND INSTALL RIVETS 54 RIVETS INSTALLED PER BRANCH 3 TOTAL INCHES DRILLED
10 SOLDER JOINTS (DOES NOT INCLUDE CONNECT COLLAR JOINTS) - 92 INCHES SOLDERED PER BRANCH
11 MATERIAL HANDLING

LAT 032 1 SHEAR LARGE SHEET 1 PIECE AND 3 SHEARS
2 FORM PITTSBURGH LOCK SEAM 2 PIECES AND 4 FT OF SEA M
3 PUNCH HOLE MOUNTING 4 HOLES PUNCHED
4 BEND FOR FORMING - 4 BENDS PER DEFLECTOR
5 ASSEMBLE AND CLOSE LOCK SEAM 2 SEAMS AND 48 INCHES OF SEAM PER DEFLECTOR
6 MATERIAL HANDLING

LAT 033 1 LAY OUT TEMPLATE
2 SHEAR PIECES 1 PIECE AND 5 SHEARS
3 LAY OUT FROM TEMPLATE & HAND CUT 3 LAYOUTS PER SET , 20 TOTAL LINES, AND 100 INCHES SHEARED
4 ROLL PIECES IN SEMI-CIRCLE 3 PIECES PER SET AND 5 FT ROLLED PER SET
5 HAMMER TO BEND TABS
6 DRILL HOLES & INSTALL 18 SCREWS 18 SCREWS INSTALLE D .1 INCH DRILLED PER SCREW
7 MATERIAL HANDLING

LAT 034 1 LAY OUT COVER
2 SHEAR PIECES 1 PIECE AND 2 SHEARED
3 PUNCH HOLES IN SHEET 10 HOLES PUNCHED

LAT 035 1 SHEAR PIECES AVERAGE 8 SLIP JOINTS PER PIECE AND 1 COUPLER JOINT
2 ROLL FORM SLIP JOINT 1 PIECE PER JOINT AND 3 FT RO LLED PER JOINT
3 MATERIAL HANDLING

LAT 036 1 SHEAR PIECES AVERAGE 8 SLIP JOINTS PER SHEET (SCRA P)AND 1 SHEAR PER SLIP JOINT PIECE
2 BEND PIECES 4 BENDS PER SLIP JOINT
3 MATERIAL HANDLING

LAT 037 1 SHEAR PIECES AVERAGE 8 DRIVE LOCKS PER PIECE AND 1 SHEAR PER DRIVE LOCK (AVERAGE PIECE IS A 2FT LONG
2 FORM DRIVE LOCK 1 SEAM PER DRIVE LOCK AND 2 FT OF SEAM PER DRIVE LOCK
3 MATERIAL HANDLING

LAT 038 1 SHEAR PIECES AVERAGE 8 DRIVE LOCKS PER PIECE AND 1 SHEAR PER DRIVE LOCK
2 BEND PIECES - 3 BENDS PER DRIVE LOCK
3 INSERT AND REMOVE CRUSH STOP STRIP IN DRIVE LOCK F OR FORMING
4 MATERIAL HANDLING

LAT 039 1 SHEAR FLAT BAR AVERAGE 3 HANGERS PER PIECE AND 1 S HEAR PER HANGER
2 PUNCH HOLES - 4 HOLES PUNCHED PER HANGER
3 ROLL BAR IN SEMICIRCLE 1 PIECE PER HANGER AND 3 FT ROLLED PER HANGER
4 BEND BARS (1 BEND)
5 MATERIAL HANDLING

LAT 040 1 SHEAR FLAT BAR AVERAGE 3 HANGERS PER PIECE AND 1 SHEAR PER HANGER
2 PUNCH 3 HOLES IN HANGER
3 BEND HANGERS (1 BEND)
4 MATERIAL HANDLING

LAT 041 1 DRILL HOLES AND INSTALL RIVETS 20 RIVETS INSTALLED PER SEAM .125 HOLE DRILLED PER RIVET

LAT 042 1 DRILL HOLES AND INSTALL SCREWS 40 SCREWS INSTALLED PER SEAM .125 INCH DRILLED PER SCREW

LAT 043 1 SOLDER SHEET METAL SEAM 36 INCHES OF SEAM SOLDERED

LAT 044 1 SETUP OR MOVE LADDER, CLIMB UP AND DOWN ONCE ADDITIONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER, CLIMB UP AND DOWN
3 LAY OUT FOR NEW DUCTS
4 SECURE HANGER BRACKETS TO CEILING 2 SCREWS PER SECTION
5 DRILL HOLES AND INSTALL HANGERS TO UNIT WITH 4 SCREWS .125 INCH DRILLED PER SCREW
6 POSITION DUCT AND ASSEMBLE DRIVE SLIP SEAMS 20 TOTAL INCHES IN DRIVE LOCK SEAM
7 MATERIAL HANDLING

LAT 045 1 SET UP OR MOVE LADDER AND CLIMB UP & DOWN ONCE ADDITION FOR FIRST SECTION
2 SET UP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PER SECTION
3 LAY OUT POSITION FOR NEW DUCTS
4 SECURE HANGER BRACKETS TO CEILING WITH SCREWS 2 SCREWS PER SECTION
5 DRILL HOLES & INSTALL HANGERS TO DUCT WITH SCREWS 6 SCREWS PER SECTION, .125 INCH DRILLED PER HOLE,
6 POSITION MEDIUM DUCT AND ASSEMBLE DRIVE SLIP SEAMS 28 INCHES OF DRIVE LOCK SEAM
7 MATERIAL HANDLING

LAT 046 1 SETUP OR MOVE LADDER, CLIMB UP & DOWN ONCE ADDITIONAL FOR FIRST SECTION
2 SETUP LADDER OR MOVE, CLIMB UP AND DOWN ONCE PER SECTION
3 LAY OUT FOR NEW DUCTS
4 INSTALL HANGERS IN CEILING 1 HANGER AND 1 SCREW INSTALLED PER SECTION
5 POSITION DUCT
6 DRILL HOLES & INSTALL SCREWS IN DUCT JOINTS 4 SCREWS INSTALLED PER SECTION .1 INCH DRILLED PER SCREW
7 MATERIAL HANDLING

LAT 047
1 SETUP OR MOVE LADDER, CLIMB UP & DOWN ONCE ADDITIONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PER SECTION
3 LAY OUT FOR NEW DUCTS
4 INSTALL HANGERS IN CEILING AVERAGE 6 HANGERS PER 5 SECTIONS = 1.2 PER SECTION
5 POSITION DUCT
6 DRILL HOLES AND INSTALL SCREWS IN DUCT JOINTS 6 SCREWS INSTALLED PER SECTION .1 INCH DRILLED PER SCR
7 MATERIAL HANDLING

LAT 048
1 SETUP OR MOVE LADDER, CLIMB UP & DOWN ONCE ADDITIONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PER SECTION
3 LAY OUT FOR NEW DUCT
4 POSITION DUCT
5 SECURE HANGERS IN CEILING AVERAGE 6 HANGERS PER 5 SECTIONS = 1.2 PER SECTION
6 DRILL HOLES AND INSTALL SCREWS IN JOINT 8 SCREWS INSTALLED PER SECTION .1 INCH DRILLED PER SCREW
7 MATERIAL HANDLING

LAT 049
1 SETUP OR MOVE LADDER, CLIMB UP & DOWN ONCE ADDITIONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PER SECTION
3 LAY OUT FOR NEW DUCT
4 POSITION DUCT
5 SECURE HANGERS IN CEILING AVERAGE 7 HANGERS PER 5 SECTIONS = 1.4 PER SECTION
6 DRILL HOLES & INSTALL SCREWS IN JOINT 10 SCREWS INSTALLED PER SECTION .1 INCH DRILLED PER SCREW
7 MATERIAL HANDLING

LAT 050
1 SETUP AND CLIMB UP AND DOWN LADDER ONCE ADDITIONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PER SECTION
3 LAY OUT FOR NEW DUCTS
4 INSTALL HANGERS TO CEILING AVERAGE 8 HANGERS PER 5 SECTIONS = 1.6 PER SECTION
5 POSITION DUCTS
6 DRILL HOLES AND INSTALL SCREWS 12 SCREWS INSTALLED PER SECTION .1 INCH DRILLED PER SCREW
7 MATERIAL HANDLING

LAT 051
1 SETUP OR MOVE LADDER, CLIMB UP & DOWN ONCE ADDITIONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER, CLIMB UP AND DOWN ONCE PER SECTION
3 LAY OUT FOR NEW DUCTS
4 INSTALL HANGERS IN CEILING AVERAGE 9 HANGERS PER 5 SECTIONS = 1.8 PER SECTION
5 POSITION DUCTS
6 DRILL HOLES AND INSTALL SCREWS IN JOINT 15 SCREWS INSTALLED PER SECTION .1 INCH DRILLED PER SCREW
7 MATERIAL HANDLING

LAT 052 1 SETUP OR MOVE AND CLIMB UP AND DOWN LADDER. ONCE A DDITIONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PE R SECTION
3 REMOVE SLIP SEAMS - 4 PER SECTION
4 REMOVE DUCT AND HANGERS.
5 REMOVE HANGER BOLTS 2 ADDITIONAL FOR FIRST SECTION
6 REMOVE HANGER BOLTS 2 PER SECTION
7 MATERIAL HANDLING.

LAT 053 1 SETUP & CLIMB UP & DOWN LADDER. ONCE ADDITIONAL FO R FIRST SECTION
2 SETUP OR MOVE LADDER ONCE PER SECTION
3 REMOVE SCREWS PER JOINT - 4 SCREWS PER SECTION
4 REMOVE HANGER BOLTS - ONE PER SECTION
5 REMOVE DUCTS AND HANGERS
6 MATERIAL HANDLING

LAT 054 1 SETUP AND CLIMB UP AND DOWN LADDER. ONCE ADDITIONA L FOR FIRST SECTION
2 SETUP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PE R SECTION
3 REMOVE SCREWS, PER JOINT - 6 SCREWS PER SECTION
4 REMOVE HANGER BOLTS * AVERAGE 11 BOLTS PER 10 SECT IONS
5 REMOVE DUCTS AND HANGERS.
6 MATERIAL HANDLING

LAT 055 1 SETUP LADDER AND CLIMB UP AND DOWN. ONCE ADDITIONA L FOR FIRST SECTION
2 SETUP OR MOVE AND CLIMB UP AND DOWN LADDER ONCE PE R SECTION
3 REMOVE JOINT SCREWS - 8 SCREWS PER SECTION
4 REMOVE HANGER BOLTS AVERAGE 6 BOLTS PER 5 SECTIONS = 1.2 PER SECTION
5 REMOVE DUCTS AND HANGERS
6 MATERIAL HANDLING

LAT 056 1 SETUP OR MOVE LADDER - CLIMB UP & DOWN ONCE ADDITI ONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PE R SECTION
3 REMOVE JOINT SCREWS - 10 PER SECTION
4 REMOVE HANGER BOLTS AVERAGE 7 BOLTS PER 5 SECTIONS = 1.4 PER SECTION
5 REMOVE DUCTS AND HANGERS
6 MATERIAL HANDLING

LAT 057 1 SETUP LADDER AND CLIMB UP AND DOWN ONCE ADDITIONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PE R SECTION
3 REMOVE JOINT SCREWS - 12 PER SECTION
4 REMOVE HANGER BOLTS AVERAGE 8 BOLTS PER 5 SECTIONS = 1.6 PER SECTION
5 REMOVE DUCTS AND HANGERS
6 MATERIAL HANDLING

LAT 058
1 SETUP LADDER AND CLIMB UP AND DOWN ONCE ADDITIONAL FOR FIRST SECTION
2 SETUP OR MOVE LADDER AND CLIMB UP AND DOWN ONCE PER SECTION
3 REMOVE JOINT SCREWS - 15 SCREWS PER SECTION
4 REMOVE HANGER BOLTS AVERAGE 9 BOLTS PER 5 SECTION = 1.8 PER SECTION
5 REMOVE DUCTS AND HANGERS
6 MATERIAL HANDLING

LAT 059
1 SETUP OR MOVE LADDER, CLIMB UP & DOWN
2 POSITION END CAP AND ASSEMBLE DRIVE SLIP SEAMS AVERAGE NUMBER OF INCHES IN DRIVE LOCK = 30
3 MATERIAL HANDLING

LAT 060
1 SETUP LADDER, CLIMB UP AND DOWN
2 DRILL HOLES AND INSTALL SCREWS 10 SCREWS INSTALLED PER CAP .1 INCH DRILLED PER SCREW
3 MATERIAL HANDLING

LAT 061
1 MOVE AND CLIMB UP AND DOWN LADDER
2 POSITION SHEET TO DUCT
3 DRILL HOLES AND SECURE PLATE TO DUCT WITH SCREWS 10 SCREWS INSTALLED PER COVER .1 INCH DRILLED PER S
4 MATERIAL HANDLING

LAT 062
1 SETUP AND CLIMB UP AND DOWN LADDER
2 ALIGN CONNECTOR TO OPENING
3 CENTER PUNCH FOR HOLES - 12 PER CONNECTOR
4 DRILL HOLES AND INSTALL SCREWS 12 SCREWS INSTALLED PER CONNECTOR
5 MATERIAL HANDLING

LAT 063
1 MEASURE TO CUT OPENINGS
2 SCRIBE CIRCLES WITH DIVIDERS
3 DRILL HOLE(S) TO START CUTS .1 INCH DRILLED PER HOLE
4 CUT OPENING WITH TIN SNIPS 32 INCHES CUT
5 POSITION DIFFUSERS INTO OPENINGS
6 HAMMER TABS IN PLACE
7 DRILL HOLES AND INSTALL SCREWS 10 SCREWS INSTALLED PER DIFFUSER .1 INCH DRILLED PER SCREW
8 MOVE AND CLIMB UP AND DOWN LADDER
9 MATERIAL HANDLING

LAT 064
1 MEASURE AND MARK TO CUT OPENING
2 DRILL HOLE(S) TO START CUTS 2 HOLES DRILLED - METAL THICKNESS = .1 INCH
3 CUT OPENINGS WITH TIN SNIPS 68 INCHES CUT
4 POSITION GRILLES IN OPENINGS
5 DRILL HOLES AND INSTALL SCREWS 10 SCREWS INSTALLED PER GRILL .1 INCH DRILLED PER SCREW
6 MOVE AND CLIMB UP AND DOWN LADDER
7 MATERIAL HANDLING

LAT 065 1 SETUP OR MOVE LADDER, CLIMB UP & DOWN
2 REMOVE SLIP SEAMS
3 MATERIAL HANDLING

LAT 066 1 SETUP LADDER, CLIMB UP & DOWN
2 REMOVE JOINT SCREWS - 10 SCREWS PER CAP
3 MATERIAL HANDLING

LAT 067 1 SETUP AND CLIMB UP & DOWN LADDER
2 REMOVE SCREWS - 10 PER PIECE
3 REMOVE UNIT
4 MATERIAL HANDLING

LAT 068 1 MEASURE TO LAY OUT DAMPER PLATE AND LOCATE SHAFT H
OLE
2 SHEAR METAL FOR DAMPER PLATE - 1 CUT PER DAMPER
3 CENTER PUNCH FOR SHAFT HOLES - 2 PUNCHES
4 DRILL HOLE(S) TO START CUTS 2 HOLES PER DAMPER .1
INCH DRILLED PER HOLE
5 DRILL HOLES AND SECURE SHAFT TO PLATE WITH RIVETS
4 RIVETS INSTALLED PER DAMPER
6 DRILL HOLES AND SECURE INDICATORS DIAL WITH SHEET
METAL SCREWS - 3 SCREWS INSTALLED PER DAMPER
7 POSTION DAMPER
8 CHECK OPERATION

LAT 069 1 SETUP AND REMOVE EXTENSION LADDER
2 CLIMB UP AND DOWN LADDER
3 REMOVE SCREWS - 20 SCREWS REMOVED
4 DISASSEMBLE
5 MATERIAL HANDLING

LAT 070 1 MOVE AND CLIMB UP AND DOWN LADDER
2 MARK TO CUT OPENING IN DUCT
3 DRILL HOLES TO START CUTS 2 HOLES DRILLED .1 INCH
DRILLED PER HOLE
4 CUT OPENING IN TRUNK LINE AND NOTCH BRANCH WITH SN
IPS - 60 INCHES CUT
5 POSITION AND ALIGN BRANCH DUCT
6 HAMMER TABS
7 DRILL HOLES AND FASTEN TABS AND HANGERS 24 SCREWS
INSTALLED PER BRANCH
8 POSITION HANGERS
9 SECURE HANGERS WITH WOOD SCREWS 8 SCREWS INSTALLED
PER BRANCH
10 MATERIAL HANDLING

LAT 071 1 SETUP AND CLIMB UP AND DOWN LADDER
2 MARK TO CUT OPENING IN DUCT
3 DRILL HOLES TO START CUTS .1 INCH DRILLED PER HOLE
- 2 HOLES DRILLED
4 CUT OPENING IN TRUNK LINE AND NOTCH BRANCH WITH SN
IPS 1 LAYOUT PER BRANCH, 12 LINES PER LAYOUT, AND8
5 POSITION AND ALIGN BRANCH DUCT
6 HAMMER TABS
7 DRILL HOLES AND FASTEN TABS AND HANGERS 40 SCREWS
INSTALLED PER BRANCH 5 INCHES DRILLED TOTAL
8 POSITION HANGERS
9 SECURE HANGERS WITH WOOD SCREWS 8 SCREWS INSTALLED
PER BRANCH
10 MATERIAL HANDLING

LAT 072 1 SETUP AND CLIMB UP AND DOWN LADDER
2 REMOVE SCREWS FROM DUCT AND CHAMBER 128 SCREWS REMOVED PER PLENUM
3 DISASSEMBLE DUCTS AND CHAMBER
4 MATERIAL HANDLING

LAT 073 1 REMOVE SCREWS 142 SCREWS REMOVED PER SYSTEM
2 DISASSEMBLE DUCTS IN 9FT SECTIONS
3 REMOVE HANGER BOLTS 32 BOLTS REMOVED PER SYSTEM
4 MATERIAL HANDLING

LAT 074 1 LAY OUT FOR SLIDING DOORS 1 LAYOUT PER DOOR
2 SHEAR EXPANDED METAL 8 SHEARS PER DOOR
3 TACK WELD AND SQUARE UP RAILS 32 TACK WELDS PER DOOR
4 WELD ALL AROUND 4FT X 8FT AND REMOVE SLAG 48 INCHES WELDED PER DOOR

LAT 075 1 REMOVE BOLTS AND NUTS FROM SECTION AND SUPPORTS 12 REMOVED PER SECTION
2 REMOVE 2 SECTIONS AND SET ASIDE
3 REMOVE 4 SUPPORTS
4 SETUP, MOVE, CLIMB UP & DOWN LADDER TWICE PER SECTION
5 MATERIAL HANDLING

LAT 076 1 REMOVE BOLTS FROM HINGES AND LOCK 36 REMOVED PER GATE
2 REMOVE LOCK 2 PIECES PER GATE
3 REMOVE GATE AND SET ASIDE 2 MOVES PER GATE
4 SETUP, MOVE LADDER, CLIMB UP AND DOWN
5 MATERIAL HANDLING

LAT 077 1 LAY OUT AREA FOR SUPPORTS AND ANCHORS
2 INSTALL 4 EXPANSION ANCHORS IN WALL OR FLOOR
3 INSTALL 4 SCREWS IN EXPANSION ANCHOR
4 POSITION SUPPORTS 4 POSITIONS PER SECTION
5 DRILL HOLES TO START CUTS .1 INCH DRILLED PER HOLE - 2 HOLES DRILLED
6 SHIM UP SUPPORTS 2 SHIMS PER SECTION
7 POSITION SECTION 2 POSITIONS PER SECTION
8 INSTALL BOLTS IN SECTIONS AND SHELLS 12 BOLTS INSTALLED PER SECTION
9 SETUP, MOVE, CLIMB UP AND DOWN LADDER
10 MATERIAL HANDLING

LAT 078 1 INSTALL EXPANDED METAL PANELS
2 DRILL HOLES IN END BRACKET .1 INCH DRILLED PER HOLE - 3 HOLES DRILLED PER SECTION
3 INSTALL 3 EXPANSION ANCHORS
4 INSTALL 3 SCREWS IN ANCHORS

LAT 079 1 MEASURE FOR SCREW LOCATIONS 4 MEASURES PER GUARD
2 POSITION SECTIONS
3 SETUP, MOVE, CLIMB UP AND DOWN LADDER
4 DRILL AND INSTALL SCREWS 10 SCREWS INSTALLED PER GUARD
5 MATERIAL HANDLING

LAT 080 1 LAY OUT FOR BRACKET LOCATIONS
2 POSITION BRACKETS 4 POSITIONS PER GUARD
3 DRILL AND INSTALL SCREWS IN BRACKETS 8 SCREWS INSTALLED PER GUARD
4 POSITION SECTION 2 POSITIONS PER GUARD
5 SETUP, MOVE CLIMB UP AND DOWN LADDER 2 USES PER GUARD
6 MATERIAL HANDLING

LAT 081 1 LAY OUT FOR HINGE AND HASP LOCATIONS
2 POSITION HASPS 2 HASPS PER GUARD
3 POSITION SECTIONS 2 POSITIONS PER SECTION
4 DRILL HOLES AND INSTALL SCREWS 6 SCREWS INSTALLED PER GUARD
5 SETUP AND CLIMB UP AND DOWN LADDER 2 USES PER GUARD
6 MATERIAL HANDLING

LAT 082 1 LAY OUT FOR GATE
2 POSITION TRANSOM SECTION
3 POSITION GATE 2 POSITIONS PER GATE
4 POSITION LOCK TO GATE 2 POSITIONS PER GATE
5 SETUP, CLIMB UP AND DOWN LADDER
6 DRILL HOLES AND INSTALL BOLTS 36 BOLTS INSTALLED PER GATE
7 MATERIAL HANDLING

LAT 083 1 MARK DRILLING LOCATIONS
2 INSTALL 2 ANCHORS
3 INSTALL 2 ANCHORS SCREWS
4 POSITION ANGLE BRACE 2 POSITIONS PER BRACE
5 DRILL HOLES IN SECTION .1 INCH DRILLED PER HOLE - 2 HOLES PER BRACE
6 INSTALL BOLTS 4 BOLTS INSTALLED PER BRACE

LAT 084 1 REMOVE 2 SECTIONS (OF EXPANDED METAL PARTITIONS)
2 LAY OUT FOR DOOR
3 POSITION TRANSOM SECTIONS 4 POSITIONS PER DOOR
4 DRILL HOLES IN SECTIONS AND SUPPORTS .1 INCH DRILLED PER HOLE - 30 HOLES DRILLED PER SECTION
5 POSITION HEADER AND TRACK 8 POSITIONS PER DOOR
6 POSITION TRACK BRACKETS, STOPS, AND LOCK NOSING 16 POSITIONS PER DOOR
7 INSTALL BOLTS IN SECTIONS AND SUPPORTS 30 BOLTS INSTALLED PER DOOR
8 HANG SLIDING DOOR 4 HANGS PER DOOR
9 SETUP, MOVE, CLIMB UP AND DOWN LADDER 8 USES PER DOOR
10 CHECK GATE OPERATION
11 MATERIAL HANDLING

LAT 085
1 SHEAR PIECES 1 SHEAR PER GUTTER
2 BEND TO FORM GUTTER 5 BENDS PER GUTTER
3 MATERIAL HANDLING

LAT 086
1 LAYOUT TEMPLATE
2 MARK FROM TEMPLATE AND HAND SHEAR 2 LAYOUTS PER EL BOW, 5 LINES PER LAYOUT, AND 48 INCHES SHEARED PER
3 ASSEMBLE AND SOLDER JOINT 2 PIECES AND 24 TOTAL IN CHES SOLDERED
4 MATERIAL HANDLING

LAT 087
1 SHEAR LARGE SHEETS 1 SHEAR PER SECTION
2 FORM LOCK SEAM 1 PIECE AND 10 FT OF SEAM
3 BEND TO FORM DOWNSPOUT 3 BENDS PER SECTION
4 ASSEMBLE & CLOSE PITTSBURGH LOCK 120 INCHES OF SEA M
5 MATERIAL HANDLING

LAT 088
1 SHEAR LARGE SHEETS 1 CUT PER SECTION
2 FORM LOCK SEAM 1 PIECE AND 10 FT OF SEAM
3 BEND TO FORM DOWNSPOUT 4 BENDS PER SECTION
4 ASSEMBLE & CLOSE PITTSBURGH LOCK 120 INCHES OF SEA M
5 SOLDER SEAM 120 INCHES SOLDERED
6 MATERIAL HANDLING

LAT 089
1 INSTALL GUTTER
2 INSTALL DOWNSPOUTS
3 MATERIAL HANDLING
4 MATERIAL HANDLING

LAT 090
1 INSTALL GUTTER
2 INSTALL DOWNSPOUTS
3 MATERIAL HANDLING
4 MATERIAL HANDLING

LAT 091
1 SET UP AND CLIMB UP AND DOWN LADDER
2 ASSEMBLE AND SOLDER JOINT 1 PIECE AND 15 INCHES SO LDERED

LAT 092
1 POSITION PARTS
2 PREPARE TO DRILL HOLES
3 DRILL AND INSTALL SCREWS 2 SCREWS INSTALLED PER BO OT .25 INCH DRILLED PER BOOT
4 MATERIAL HANDLING

LAT 093
1 INSTALL DOWNSPOUTS
2 MATERIAL HANDLING

LAT 094 1 INSTALL GUTTER
2 INSTALL DOWNSPOUTS
3 MATERIAL HANDLING
4 MATERIAL HANDLING

LAT 095 1 INSTALL GUTTER
2 INSTALL DOWNSPOUTS
3 MATERIAL HANDLING
4 MATERIAL HANDLING

LAT 096 1 ASSEMBLE AND SOLDER JOINT 1 PIECE AND 12 TOTAL INC HES SOLDERED
2 MATERIAL HANDLING

LAT 097 1 INSTALL DOWNSPOUTS
2 MATERIAL HANDLING

LAT 098 1 REMOVE GUTTER
2 REMOVE DOWNSPOUTS - CONSISTS OF 2 SECTIONS * SETUP TIME ALLOWED IN GUTTER REMOVAL
3 MATERIAL HANDLING

LAT 099 1 REMOVE GUTTER
2 REMOVE DOWNSPOUTS - CONSISTS OF 2 SECTIONS
3 MATERIAL HANDLING
4 MATERIAL HANDLING

LAT 100 1 REMOVE ADDITIONAL DOWNSPOUT - EACH DOWNSPOUT IS 2 SECTIONS
2 MATERIAL HANDLING

LAT 101 1 REMOVE SECTION OF SOLDERED GUTTER
2 REMOVE DOWNSPOUTS - CONSISTS OF 2 SECTIONS * SETUP TIME ALLOWED IN GUTTER REMOVAL
3 MATERIAL HANDLING
4 MATERIAL HANDLING
5 REMOVE DOWNSPOUTS - CONSISTS OF 2 SECTIONS * SETUP TIME ALLOWED IN GUTTER REMOVAL

LAT 102 1 REMOVE SECTION OF SOLDERED GUTTER
2 REMOVE SOLDERED DOWNSPOUTS - CONSISTS OF 2 SECTION S
3 MATERIAL HANDLING
4 MATERIAL HANDLING
5 REMOVE SOLDERED DOWNSPOUTS - CONSISTS OF 2 SECTION S

LAT 103 1 REMOVE SOLDER JOINT DOWNSPOUT USING A LADDER EACH DOWNSPOUT CONSISTS OF 2 SECTIONS
2 MATERIAL HANDLING

LAT 104
1 REMOVE GUTTER
2 REMOVE DOWNSPOUT - CONSISTS OF 2 SECTIONS * SETUP TIME ALLOWED IN GUTTER REMOVAL
3 INSTALL GUTTER PER SECTION
4 INSTALL DOWNSPOUTS - EACH DOWNSPOUT CONSISTS OF TWO SECTIONS
5 MATERIAL HANDLING
6 MATERIAL HANDLING
7 REMOVE DOWNSPOUT - CONSISTS OF 2 SECTIONS * SETUP TIME ALLOWED IN GUTTER REMOVAL

LAT 105
1 REMOVE GUTTER
2 REMOVE DOWNSPOUT - CONSISTS OF 2 SECTIONS * SETUP TIME ALLOWED IN GUTTER REMOVAL
3 INSTALL GUTTER
4 INSTALL DOWNSPOUTS
5 MATERIAL HANDLING
6 MATERIAL HANDLING
7 REMOVE DOWNSPOUT - CONSISTS OF 2 SECTIONS * SETUP TIME ALLOWED IN GUTTER REMOVAL

LAT 106
1 REMOVE DOWNSPOUTS
2 INSTALL DOWNSPOUTS
3 MATERIAL HANDLING

LAT 107
1 REMOVE SCREWS FROM BOOT 2 SCREWS PER BOOT
2 REMOVE OLD BOOT
3 INSTALL BOOTS ON DOWNSPOUTS
4 MATERIAL HANDLING

LAT 108
1 REMOVE DOWNSPOUTS - CONSISTS OF 2 SECTIONS
2 INSTALL DOWNSPOUTS
3 MATERIAL HANDLING

LAT 109
1 REMOVE BOOT FROM DOWNSPOUT
2 ASSEMBLE AND SOLDER JOINT = 12 INCHES SOLDERED PER BOOT
3 MATERIAL HANDLING

LAT 110
1 SET UP AND CLIMB UP AND DOWN LADDER.
2 REMOVE OLD HANGER
3 INSTALL HANGER

LAT 111
1 SHEAR SMALL SHEETS (INCLUDES ONE SQUARING CUT PER SHEET) 1 SHEET AND 2 SHEARS PER SECTION
2 BEND SMALL SHEETS - 2 BENDS PER SECTION
3 ROLL PIECES FULL CIRCLE (SETUP INCLUDES FIRST PIECE) 1 PIECE AND 3FT ROLLED PER SECTION
4 MATERIAL HANDLING

LAT 112
1 SHEAR SMALL SHEETS (INCLUDES ONE SQUARING CUT PER SHEET) 2 SHEARS PER SECTION
2 BEND SMALL SHEETS (INCLUDES ONE BEND PER SHEET) 2 BENDS PER SECTION
3 ROLL PIECES FULL CIRCLE (SETUP INCLUDES FIRST PIEC E) (5FT ROLLED PER SECTION)
4 MATERIAL HANDLING

LAT 113
1 LAYOUT FOR JOB
2 SHEAR PIECES FROM SHEET (INCLUDES ONE SQUARING CUT PER SHEET) 5 SHEARS PER COVERING
3 TRIM PIECES FOR BENDING 10 LINES SCRIBED AND 300" SHEARED PER COVERING
4 BEND SMALL SHEETS (INCLUDES ONE BEND PER SHEET) 6 BENDS PER COVERING
5 ROLL PIECES FULL CIRCLE (SETUP INCLUDES FIRST PIEC E) (5 PIECES, AND 15FT ROLLED PER COVERING)
6 MATERIAL HANDLING

LAT 114
1 LAYOUT FOR JOB
2 SHEAR PIECES FROM SHEET (INCLUDES ONE SQUARING CUT PER SHEET) 5 PIECES PER COVERING
3 TRIM PIECES FOR BENDING 10 LINES SCRIBED AND 500" SHEARED PER COVERING
4 BEND SMALL SHEETS (INCLUDES ONE BEND PER SHEET) 6 BENDS PER COVERING
5 ROLL PIECES FULL CIRCLE (SETUP INCLUDES FIRST PIEC E) 5 PIECES AND 25FT ROLLED PER COVERING
6 MATERIAL HANDLING

LAT 115
1 LAYOUT FOR JOB - 2 LAYOUTS
2 SHEAR PIECES FROM SHEET (INCLUDES ONE SQUARING CUT PER SHEET) 3 SHEARS PER COVERING
3 TRIM FOR BENDING 24 LINES SCRIBED AND 132" SHEARED PER COVERING
4 BEND SMALL SHEETS (INCLUDES ONE BEND PER SHEET) 6 BENDS PER COVERING
5 ROLL PIECES FULL CIRCLE (SETUP INCLUDES FIRST PIEC E) 2 PIECES AND 9FT ROLLED PER COVERING
6 MATERIAL HANDLING

LAT 116
1 LAYOUT FOR JOB - 2 LAYOUTS
2 SHEAR PIECES FROM SHEET (INCLUDES ONE SQUARING CUT PER SHEET) 3 SHEARS PER COVERING
3 TRIM FOR BENDING 24 LINES SCRIBED AND 220" SHEARED PER COVERING
4 BEND SMALL SHEETS (INCLUDES ONE BEND PER SHEET) 6 BENDS PER COVERING
5 ROLL PIECES FULL CIRCLE (SETUP INCLUDES FIRST PIEC E) 2 PIECES AND 15FT ROLLED PER COVERING
6 MATERIAL HANDLING

LAT 117
1 SETUP AND CLIMB UP AND DOWN LADDER
2 POSITION METAL COVERING
3 SECURE SECTION FOR DRILLING USING TIE WIRES 3 WIRES USED PER COVERING
4 DRILL HOLES AND INSTALL SCREWS 7 SCREWS INSTALLED PER COVERING
5 REMOVE TIE WIRES
6 MATERIAL HANDLING

LAT 118
1 SETUP AND CLIMB UP AND DOWN LADDER
2 POSITION ELBOW COVERING
3 SECURE SECTIONS FOR DRILLING USING TIE WIRES 20 WIRES PER COVERING
4 REMOVE TIE WIRE
5 DRILL HOLES AND INSTALL SCREWS 40 SCREWS INSTALLED PER COVERING
6 MATERIAL HANDLING

LAT 119
1 SETUP AND CLIMB UP AND DOWN LADDER
2 POSITION TEE COVERING
3 SECURE SECTIONS FOR DRILLING USING TIE WIRES 12 TIES PER COVERING
4 REMOVE TIE WIRE
5 DRILL HOLES AND INSTALL SCREWS 24 SCREWS INSTALLED PER COVERING
6 MATERIAL HANDLING

LAT 120
1 SETUP AND CLIMB UP AND DOWN LADDER
2 REMOVE SHEET METAL SCREWS 3 SCREWS REMOVED
3 REMOVE SHEET METAL COVERING
4 MATERIAL HANDLING

LAT 121
1 SETUP AND CLIMB UP AND DOWN LADDER
2 REMOVE SHEET METAL SCREWS 40 SCREWS REMOVED
3 REMOVE SHEET METAL COVERING
4 MATERIAL HANDLING

LAT 122
1 SETUP AND CLIMB UP AND DOWN LADDER
2 REMOVE SHEET METAL SCREWS 24 SCREWS REMOVED PER COVERING
3 REMOVE SHEET METAL COVERING
4 MATERIAL HANDLING

LAT 123
1 LAYOUT - SIMPLE
2 SHEAR LARGE SHEET (ONE SHEAR)
3 BEND FOR FORMING 3 BENDS PER PIECE
4 MATERIAL HANDLING

LAT 124
1 LAYOUT - SIMPLE
2 SHEAR LARGE SHEET 1 SHEAR
3 NOTCH FOR BENDS 1 FT PER SECTION
4 BEND TO FORM CAP AND SEAM 6 BENDS PER SECTION
5 MATERIAL HANDLING

LAT 125 1 LAYOUT - SIMPLE
         2 SHEAR LARGE SHEET (ONE SHEAR)
         3 BEND FOR FORMING 4 BENDS PER PIECE
         4 MATERIAL HANDLING

LAT 126 1 LAYOUT - SIMPLE
         2 LAYOUT FROM TEMPLATE 1 LINE SCRIBED AND 11 INCHES
           SHEARED PER POCKET
         3 SHEAR LARGE SHEET (ONE SHEAR)
         4 SHEAR SMALL SHEETS 4 SHEARS PER POCKET
         5 FORM PITTSBURGH LOCK SEAM 1 PIECE AND 1 FT OF SEAM
           PER POCKET
         6 TRIM SHEET METAL (NOTCH) .7 FT TRIMMED PER POCKET
         7 BEND FOR FORMING (BOXES) 4 BENDS PER POCKET
         8 CLOSE LOCK SEAM - 6 INCHES OF SEAM
         9 SOLDER BOX TO BASE SHEET 2 PIECES AND 32 INCHES SO
           LDERED PER POCKET
        10 MATERIAL HANDLING

LAT 127 1 LAYOUT - AVERAGE
         2 SHEAR LARGE SHEET (ONE SHEAR)
         3 SHEAR MEDIUM SHEET 3 SHEARS PER JACK
         4 LAYOUT FROM TEMPLATE 5 LINES SCRIBED AND 36 INCHES
           SHEARED PER JACK
         5 CUT OUT HOLES AND SLEEVES 2 PIECES AND 3 FT CUT PE
           R JACK
         6 BEND FOR SINGLE LOCKS 2 BENDS PER JACK
         7 ROLL TO FORM SLEEVES 2 PIECES AND 1 FT ROLLED PER
           JACK
         8 CLOSE LOCK SEAM
         9 CRIMP BOTTOM EDGE OF SLEEVE
        10 ASSEMBLE AND SOLDER PARTS 2 PIECES AND 36 INCHES S
           OLDERED PER JACK
        11 MATERIAL HANDLING

LAT 128 1 INITIAL LAYOUT
         2 SHEAR PIECES 13 SHEARS PER JACK
         3 CUT OUT HOLE 1 PIECE AND 4 FT CUT PER JACK
         4 LAYOUT FROM TEMPLATE. SHEAR AND NOTCH WITH TIN SN
           IPS. 12 LINES SCRIBED AND 60" CUT PER JACK
         5 POSITION PIECES
         6 ASSEMBLE AND CLOSE LOCK SEAM 120 INCHES OF SEAM
         7 DRILL HOLES AND INSTALL SHEET METAL SCREWS. 10 SCR
           EWS INSTALLED PER JACK- .1"DRILLED PER SCREW
         8 CRIMP BOTTOM EDGE SLEEVE
         9 MAKE BENDS 100 BENDS PER JACK
        10 ROLL NECK PIECE COMPLETE CIRCLE
        11 FORM LOCK SEAM (28FT)
        12 HAMMER TO BEND NECK TABS (120 OCCUR)
        13 ASSEMBLE AND SOLDER (2 PIECES , 96")
        14 MATERIAL HANDLING

LAT 129 1 LAYOUT - SIMPLE
2 LAYOUT FROM TEMPLATE 10 LINES SCRIBED PER CAP AND 75" SHEARED PER CAP
3 SHEAR PIECE FROM SHEET 5 SHEARS PER CAP
4 ROLL PIECE
5 SOLDER SEAM 6 INCHES SOLDERED PER CAP
6 PUNCH HOLES FOR BRACKETS 4 HOLES PER CAP
7 POSITION BRACKET ON CAP (4 OCCUR)
8 RIVET BRACKET TO CAP 4 RIVETS INSTALLED PER CAP
9 MATERIAL HANDLING

LAT 130 1 LAYOUT - AVERAGE
2 LAYOUT FROM TEMPLATE 15 LINES SCRIBED AND 100 INCHES SHEARED PER CAP
3 SHEAR PIECE FROM SHEET 5 SHEARS PER CAP
4 ROLL PIECE
5 SOLDER SEAM 9 INCHES SOLDERED PER CAP
6 PUNCH HOLES FOR BRACKETS 4 HOLES PUNCHED PER CAP
7 POSITION BRACKET ON CAP
8 RIVET BRACKET TO CAP 4 RIVETS INSTALLED PER CAP
9 MATERIAL HANDLING

LAT 131 1 MEASURE, MARK
2 SHEAR SMALL SHEETS 11 SHEARS PER SET
3 BEND TO FORM CLEATS 11 BENDS PER SET
4 MATERIAL HANDLING

LAT 132 1 SET UP AND CLIMB UP AND DOWN LADDER.
2 POSITION METAL.
3 NAIL METAL. 25 NAILS PER SECTION
4 MATERIAL HANDLING.

LAT 133 1 SET UP AND CLIMB UP AND DOWN LADDER.
2 REMOVE NAILS 25 NAILS PER SECTION
3 MATERIAL HANDLING.

LAT 134 1 SET UP AND CLIMB UP AND DOWN LADDER.
2 REMOVE NAILS 25 NAILS PER SECTION
3 REMOVE OR POSITION METAL.
4 INSTALL NAILS. 25 NAILS PER SECTION
5 MATERIAL HANDLING

LAT 135 1 SET UP AND CLIMB UP AND DOWN LADDER.
2 POSITION CORRUGATED CAP.
3 PUNCH HOLES FOR NAILS. 40 HOLES PUNCHED
4 DRIVE NAILS. 40 NAILS PER SECTION
5 MATERIAL HANDLING.

LAT 136 1 SET UP AND CLIMB UP AND DOWN LADDER.
2 REMOVE NAILS FROM CAP. 40 NAILS PER SECTION
3 REMOVE & POSITION CORRUGATED CAP. (4 OCCUR)
4 PUNCH HOLES FOR NAILS. 40 HOLES PUNCHED PER SECTION
5 DRIVE NAILS. 40 NAILS PER SECTION
6 MATERIAL HANDLING

LAT 137
1 SET UP AND CLIMB UP AND DOWN LADDER.
2 LAYOUT FOR VALLEY METAL.
3 POSITION VALLEY METAL.
4 POSITION CLIPS.
5 NAIL CLIPS AND JOINT. 45 NAILS PER SECTION
6 SOLDER JOINT. 24 INCHES SOLDERED
7 MATERIAL HANDLING.

LAT 138
1 SET UP AND CLIMB UP AND DOWN LADDER
2 POSITION METAL.
3 INSTALL NAILS 9 NAILS PER PANEL
4 MATERIAL HANDLING

LAT 139
1 SET UP AND CLIMB UP AND DOWN LADDER
2 SPREAD ROOFING CEMENT 8 SQ FT SPREAD
3 POSITION POCKETS.
4 NAIL EDGES. 32 NAILS PER POCKET
5 MATERIAL HANDLING

LAT 140
1 SET UP AND CLIMB UP AND DOWN LADDER.
2 POSITION METAL IN REGLET.
3 POSITION AND DRIVE WEDGES. 10 WEDGES PER SECTION
4 FILL REGLET WITH ROOFING COMPOUND. 1 SQ FT FILLED
5 MATERIAL HANDLING

LAT 141
1 SHEAR LARGE METAL SHEETS 13 SHEARS PER DOOR
2 LAY OUT DOOR COVER - SMALL, SIMPLE
3 SHEAR SMALL SHEETS (MITER) 17 CUTS PER DOOR
4 BEND TO FORM EDGES - MEDIUM SIZE PIECE 8 BENDS PER DOOR
5 NAIL EDGES FOR SOLDERING 144 NAILS PER DOOR
6 ASSEMBLE AND SOLDER 6 PIECES AND 249 INCHES SOLDERED PER DOOR
7 MATERIAL HANDLING

LAT 142
1 LAY OUT COVER - MEDIUM
2 SHEAR LARGE SHEETS 4 SHEARS PER COVER
3 NOTCH ANGLES 3 NOTCHES PER COVER
4 SHEAR ANGLES - (2) ENDS
5 PUNCH HOLES IN ANGLE FOR MOUNTING AND RIVETS = 35 HOLES PUNCHED PER COVER
6 FORM PITTSBURGH LOCK SEAM 6 PIECES AND 16 FT SEAM PER COVER
7 NOTCH PRIOR TO FORMING LOCK SEAM 8 NOTCHES PER COVER
8 BEND TO FORM EDGES - MEDIUM SIZE PIECE 7 BENDS PER COVER
9 ASSEMBLE BOX 3 SEAMS PER COVER, 192"OF SEAM PER COVER
10 INSTALL ANGLE WITH RIVETS 32 RIVETS INSTALLED PER COVER,2"TOTAL DRILLED
11 MATERIAL HANDLING

LAT 143 1 SHEAR LARGE SHEET 4 SHEARS PER SHIELD
2 PUNCH MOUNTING HOLES IN BANDS 4 HOLES PUNCHED PER SHIELD
3 BEND SUPPORTS - SMALL PIECES 4 BENDS PER PIECE
4 ROLL BANDS 2 PIECES AND 12 FT ROLLED PER SHIELD
5 ROLL SHEET
6 DRILL HOLES AND INSTALL RIVETS 24 RIVETS PER SHIELD,6"TOTAL DRILLED PER SHIELD
7 MATERIAL HANDLING

LAT 144 1 LAY OUT CANOPY
2 SHEAR LARGE SHEET 11 CUTS PER CANOPY
3 BEND FOR LOCK SEAM, HEM AND STIFFENER 15 BENDS PER CANOPY
4 NOTCH FOR LOCK SEAM 8 NOTCHES PER CANOPY
5 FORM LOCK SEAM 2 PIECES PER CANOPY, 6FT OF SEAM PER CANOPY
6 ASSEMBLE LOCK SEAMS 72 INCHES SEAM PER CANOPY
7 DRILL HOLES AND INSTALL RIVETS 6 RIVETS AND 1 INCH DRILLED PER CANOPY
8 PUNCH HOLES FOR MOUNTING 9 HOLES PUNCHED PER CANOPY
9 MATERIAL HANDLING

LAT 145 1 SHEAR LARGE SHEET 3 SHEARS PER GUARD
2 PUNCH HOLES FOR MOUNTING 7 PUNCHES PER CANOPY
3 BREAK HEM ALL EDGES 10 BENDS PER GUARD
4 MATERIAL HANDLING

LAT 146 1 LAY OUT SMALL SHEET - SIMPLE
2 LAY OUT FROM TEMPLATE AND SHEAR 3 LINES SCRIBED AND 64 INCHES SHEARED PER HOOD
3 SHEAR LARGE SHEETS 6 SHEARS PER HOOD
4 FORM PITTSBURGH LOCK SEAM 2 PIECES PER HOOD, 3FT SEAM FORMED PER HOOD
5 BREAK FOR FORMING 6 BENDS PER HOOD
6 ROLL TOP SHEET
7 TURN UP EDGES 2 SETUPS PER HOOD
8 ASSEMBLE LOCK SEAM 36 INCHES PER HOOD
9 PUNCH HOLES IN EDGE PRIOR TO BENDING 9 HOLES PUNCHED PER HOOD
10 MATERIAL HANDLING

LAT 147 1 SHEAR LARGE SHEET
2 SHEAR MEDIUM SHEET
3 NOTCH CORNERS 8 SETUPS PER SHELF, 1FT TRIMED PER SHELF
4 PUNCH HOLES 7 HOLES PUNCHED PER SHELF
5 BEND TO FORM ANGLES AND HEM - SMALL 10 BENDS PER SHELF
6 MATERIAL HANDLING

LAT 148
1 SHEAR SMALL SHEET 2 SHEARS PER SHELF
2 PUNCH HOLES 2 HOLES PUNCHED PER SHELF
3 BEND TO FORM ANGLES - SMALL 2 BENDS PER SHELF
4 MATERIAL HANDLING

LAT 149
1 SHEAR SMALL SHEETS 2 SHEARS PER BRACKET
2 PUNCH HOLES 2 PUNCHES PER BRACKET
3 BEND TO FORM ANGLES - SMALL 2 BENDS PER BRACKET
4 MATERIAL HANDLING

LAT 150
1 SHEAR LARGE SHEET 2 SHEARS PER SIGN
2 PUNCH HOLES FOR MOUNTING 4 HOLES PUNCHED PER SIGN
3 MATERIAL HANDLING

LAT 151
1 SHEAR LARGE SHEET
2 SHEAR SMALL SHEET 3 SHEARS PER SIGN
3 CUT POINTS TO ROUND
4 PUNCH HOLES (SMALL) 2 HOLES PUNCHED PER SIGN
5 MATERIAL HANDLING

LAT 152
1 LAY OUT HOOD - SMALL
2 SHEAR LARGE SHEETS 7 SHEARS PER HOOD
3 SHEAR SMALL SHEETS 16 SHEARS PER HOOD
4 FORM PITTSBURGH LOCK SEAM 4 SEAMS AND 12 TOTAL FT OF SEAM PER HOOD
5 BEND FOR HEM AND LOCK - SMALL 16 BENDS PER HOOD
6 ASSEMBLE LOCK SEAMS 144 INCHES ASSEMBLED PER HOOD
7 DRILL AND INSTALL RIVETS ON SKIRT 8 RIVETS INSTALLED PER HOOD & 1" DRILLED PER HOOD
8 MATERIAL HANDLING

LAT 153
1 LAY OUT HOOD
2 SHEAR LARGE SHEET 7 SHEARS PER HOOD
3 SHEAR SMALL SHEETS 9 SHEARS PER HOOD
4 SHEAR SMALL SHEET FOR EXHAUST BOOT
5 FORM PITTSBURGH LOCK 4 SEAMS AND 12 FT OF SEAM PER HOOD
6 ROLL SHEET - COMPLETE CIRCLE
7 BEND FOR HEM & LOCK - SMALL 15 BENDS PER HOOD
8 ASSEMBLE LOCK SEAMS 144 INCHES OF SEAM PER HOOD
9 DRILL AND INSTALL RIVETS ON SKIRT 8 RIVETS INSTALLED PER HOOD- 1"DRILLED PER HOOD
10 SOLDER IN BOOT 2 PIECES AND 18 INCHES SOLDERED PER BOOT

LAT 154
1 LAY OUT HOOD (AVERAGE LAY OUT) 20 INCES PUNCHED PER HOOD
2 SHEAR SHEETS (LARGE) 6 SHEARS PER HOOD
3 SHEAR, USING PULLMAX MACHINE 7 PIECES SHEARED PER HOOD, 104"CUT PER HOOD
4 BEND FOR FORMING & LOCK - MEDIUM 15 BENDS PER HOOD
5 SHEAR SMALL SHEET FOR EXHAUST BOOT 1 SHEAR PER HOOD
6 BEND FOR SINGLE LOCK - SMALL 2 BENDS PER HOOD
7 ROLL SHEET INTO COMPLETE CIRCLE
8 CLOSE LOCK SEAM 2 SETUPS PER HOOD
9 NOTCH SEAM 9 NOTCHES PER HOOD
10 NOTCH ANGLE 3 TIMES PER HOOD
11 SHEAR ANGLE
12 DRILL HOLES AND INSTALL RIVETS - ANGLE STIFFENER 24 RIVETS INSTALLED PER HOOD, 3"DRILLED PER HOOD
13 SOLDER BOOT (18")
14 MATERIAL HANDLING

LAT 155 1 LAY OUT SIDES, TOP, BOTTOM, AND DOOR (AVERAGE)
2 SHEAR LARGE SHEETS 16 SHEARS PER CABINET
3 NOTCH PER BENDING 28 NOTCHES PER CABINET
4 BEND FOR FORMING - MEDIUM 37 BENDS PER CABINET
5 FABRICATE 4 LEG ANCHORS
6 ASSEMBLE, DRILL, AND INSTALL RIVET 80 RIVETS INSTA LLED PER CABINET, 10"DRILLED
7 WELD LEGS ON CABINET 32 INCHES WELDS PER CABINET
8 MATERIAL HANDLING

LAT 156 1 LAY OUT CABINET - LARGE, SIMPLE
2 SHEAR LARGE SHEETS 25 SHEARS PER CABINET
3 NOTCH FOR BENDING 48 NOTCHES PER CABINET
4 BEND FOR FORMING - MEDIUM 58 BENDS PER CABINET
5 FABRICATE (4) LEG ANCHORS
6 POSITION PARTS FOR WELDING 14 PIECES PER CABINET
7 POSITION SMALL PART 12 PIECES PER CABINET
8 TACKWELD 1" FOR EACH 6" OF JOINT 150 TACKS PER CAB INET
9 WELD LEGS ON CABINET 32 INCHES WELDED PER CABINET
10 WELD ON HINGES AND PULLS 80 INCHES WELDED PER CABI NET
11 MATERIAL HANDLING

LAT 157 1 LAY OUT LARGE SHEET (SIMPLE)
2 SHEAR SHEETS (LARGE) 5 SHEARS PER TANK
3 BURN BOTTOM PIECE TO SIZE 13 FT BURNED PER TANK
4 PUNCH HOLE FOR DRAIN SPOUT 1 HOLE PUNCHED PER TANK
5 ROLL PLATE FOR TANK 2 PIECES PER TANK ,13FT ROLLED PER TANK
6 BEVEL SHEETS FOR WELDING 38 FT PER TANK
7 FORM LIFTING RINGS 3 RINGS PER TANK
8 TACK WELD 26 TACKS PER TANK
9 WELD UP TO 1/4" PLATE AND RINGS 264 INCHES WELDED PER TANK
10 GRIND WELD 19 FT GROUND PER TANK
11 BURN I BEAM TO LENGTH 4 CUTS = 24" OR 2FT
12 TACK WELD BEAM TO BOTTOM (32 OCCUR)
13 GRIND EDGES 4 FT GROUND PER TANK
14 MATERIAL HANDLING

LAT 158 1 DO SIMPLE LAY OUT - SMALL SHEET
2 SHEAR MEDIUM SHEETS 3 SHEARS PER CONTAINER
3 SHEAR TO RADIUS 5 FT SHEARED PER CONTAINER
4 BREAK FOR SINGLE LOCK 3 BENDS PER CONTAINER
5 CLOSE LOCK SEAM
6 NOTCH METAL 4 NOTCHES PER CONTAINER
7 ROLL METAL TO 12" DIA. 1 PIECE PER CONTAINER, 3FT ROLLED PER CONTAINER
8 HEM CONTAINER BOTTOM 10 SETUPS PER CONTAINER
9 TURN FLANGE ON BOTTOM DISK 8 SETUPS PER CONTAINER
10 LOCK BOTTOM IN HEM 3 SETUPS PER CONTAINER
11 ROLL TOP END OF CONTAINER 10 SETUPS PER CONTAINER
12 SOLDER BOTTOM AND SIDES 2 PIECES PER CONTAINER , 5 4"SOLDERED
13 SHEAR LIFTING EARS
14 SPOTWELD EARS TO CONTAINER
15 BEND EARS 9 BENDS PER CONTAINER
16 MATERIAL HANDLING

LAT 159 1 SHEAR LARGE SHEET 2 CUTS PER URINAL
2 LAY OUT URINAL - SIMPLE
3 SHEAR PIECES 8 PIECES SHEARED PER URINAL 39 FT CUT PER URINAL
4 BEND TO FORM URINAL 16 BENDS PER URINAL
5 SOLDER ALL SEAMS 95 INCHES SOLDERED PER URINAL
6 PUNCH HOLE FOR DRAIN 1 HOLE PUNCHED PER URINAL
7 WELD NIPPLE INTO DRAIN
8 MATERIAL HANDLING

LAT 160 1 SHEAR LARGE SHEETS 2 CUTS PER PAN
2 NOTCH CORNERS WITH SNIPS 4 SETUPS PER PAN 8 FT TRIMMED PER PAN
3 BREAK FOR FORMING 13 BENDS PER PAN
4 DRILL HOLES AND RIVET CORNERS 4 RIVETS INSTALLED PER PAN 1 INCH DRILLED PER PAN
5 SOLDER CORNERS AND DRAIN OUTLET 8 INCHES SOLDERED PER PAN
6 PUNCH HOLE FOR DRAIN 1 HOLE PUNCHED PER PAN
7 MATERIAL HANDLING

LAT 161 1 LAY OUT FOR BOXES
2 LAY OUT BOX FROM TEMPLATE 28 LINES SCRIBED PER BOX
3 SHEAR METAL FOR BOX 4 SHEARS PER BOX
4 SHEAR METAL FOR FACE PLATE 4 SHEARS PER BOX
5 NOTCH FOR BENDING 12 NOTCHES PER BOX
6 BEND TO FORM BOX 12 BENDS PER BOX
7 ASSEMBLE (INCLUDES 6 SPOTWELDS PER BOX)
8 POSITION PART TO NEXT LOCATION AND MAKE ADDITIONAL SPOTWELDS 24 ADDITIONAL SPOTWELDS PER BOX
9 DRILL HOLES AND INSTALL SCREWS 24 SCREWS INSTALLED PER BOX 3 INCHES DRILLED PER BOX
10 MATERIAL HANDLING

LAT 162 1 SHEAR LARGE SHEET 2 SHEARS PER SINK
2 LAY OUT SINK - SIMPLE
3 SHEAR - PULLMAX MACHINE 8 PIECES SHEARED PER SINK 13 FT SHEARED PER SINK
4 BEND TO FORM SINK 16 BENDS PER SINK
5 SHEAR ANGLES FOR LEGS 4 SHEARS PER SINK
6 SHEAR FLAT STOCK FOR FLANGES 4 SHEARS PER SINK
7 TACKWELD SINK AND LEGS 26 TACKS PER SINK
8 WELD FLANGES TO LEGS 31 INCHES WELDED PER SINK
9 SOLDER ALL SEAMS 64 INCHES SOLDERED PER SINK
10 PUNCH HOLE FOR DRAIN 1 HOLE PUNCHED PER SINK
11 WELD NIPPLE IN DRAIN
12 MATERIAL HANDLING

LAT 163 1 LAY OUT MEDIUM SHEET 12 INCHES PUNCHED PER SINK
2 SHEAR LARGE SHEET 4 SHEARS PER SINK
3 CUT OUT LAID OUT SINK WITH PULLMAX MACHINE 2 PIECES SHEARED PER SINK 12 FT SHEARED PER SINK
4 NOTCH CORNERS FOR BENDING 6 NOTCHES PER SINK
5 BEND FOR FORMING 10 BENDS PER SINK
6 TACK WELD 18 TACKS PER SINK
7 WELD BOX END, DRAINS, AND NIPPLE 129 INCHES WELDED PER SINK
8 PUNCH HOLES PRIOR TO BENDING 5 HOLES PUNCHED PER SINK
9 GRIND WELDS SMOOTH 12 FT GROUND PER SINK
10 MATERIAL HANDLING

LAT 164 1 LAY OUT SINK - MEDIUM
2 SHEAR LARGE SHEETS - ROUGH 6 SHEARS PER SINK
3 CUT OUT PATTERNS - PULLMAX MACHINE 9 PIECES SHEARED PER SINK 20 FT SHEARED PER SINK
4 PUNCH HOLES FOR PIPE 2 HOLES PUNCHED PER SINK
5 PUNCH HOLE FOR DRAIN 2 HOLES PUNCHED PER SINK
6 BEND FOR FORMING 10 BENDS PER SINK
7 DRILL AND RIVET PRIOR TO SOLDERING 26 RIVETS INSTALLED PER SINK 5 INCHES DRILLED PER SINK
8 SOLDER JOINTS AND OUTLET 124 INCHES SOLDERED PER SINK
9 MATERIAL HANDLING

LAT 165 1 LAY OFF 1FT X 1FT HOLE ON 1/16" MILD STEEL
2 PREPARE FOR CUTTING 1FT X 1FT HOLE IN 1/16" MILD STEEL
3 DRILL (4) - 1/2" DIA. PILOT HOLES IN 1/16" MILD STEEL
4 SAW 1FT X 1FT HOLE IN 1/16" THICK MILD STEEL IN HORIZONTAL POSITION USING SABRE SAW.
5 REPLACE BROKEN BLADE IN SABRE SAW.
6 SAW TOUCH-UP CUTS IN (2) CORNERS IN MILD STEEL IN HORIZONTAL POSITION USING SABRE SAW.
7 DEBURR EDGES ON 1FT X 1FT HOLE IN 1/16" MILD STEEL USING A FILE.

LAT 166 1 SET UP CUT-OFF SAW FOR CUTTING 3/4" DIA. BAR STOCK
2 SAW 3/4" DIA. STEEL BAR USING CUT-OFF SAW
3 RETURN UNUSED MATERIAL TO MATERIAL RACK AND RETURN
4 TRAVEL TO GRINDER WITH 3/4" BAR STOCK
5 DEBURR 3/4" DIA. BAR - ONE END ONLY
6 PREPARE ACETYLENE TORCH FOR HEATING 3/4" STEEL BAR
7 FORM 3/4" DIA. STEEL BAR INTO 90 DEGREE BEND
8 QUENCH 3/4" DIA. STEEL BAR WITH WATER
9 SHEAR 1 1/2" WIDE STRIP OF METAL FROM 1/8" THICK SHEET OF METAL
10 MEASURE AND SCRIBE LINE ON 4 1/2" X 1 1/2" X 1/8" PIECE OF METAL
11 DRILL (4) 3/8" DIA. HOLES IN 1/8" MILD STEEL, INCLUDES SETTING UP DRILL
12 FORM (3) 90 DEGREE BENDS ON EACH OF (2) PIECES OF METAL 4 1/2" X 1 1/2" X 1/8" USING LEAF BRAKE

LAT 167 1 LAY OFF 1FT X 1FT HOLE ON 1/8" MILD STEEL
2 PREPARE TO CUT 1FT X 1FT HOLE IN 1/8" MILD STEEL
3 DRILL (4) - 3/8" DIA. PILOT HOLES IN 1/8" MILD STEEL
4 SAW 1FT X 1FT HOLE IN 1/8" MILD STEEL WITH 2.3 AMP. SABRE SAW
5 REPLACE BROKEN BLADE IN SABRE SAW
6 SAW TOUCH-UP CUTS IN (2) CORNERS OF 1FT X 1FT HOLE IN 1/8" MILD STEEL USING 2.3 AMP. SABRE SAW
7 DEBURR EDGES OF 1FT X 1FT HOLE IN 1/8" MILD STEEL USING A FILE

LAT 168	1	CLIMB UP AND DOWN LADDER WITH POWER TOOL IN HAND (A CLIMB UP OR DOWN = FREQUENCY OF 1)
	2	LAY OFF 1FT X 1FT HOLE ON 1/8" THICK MILD STEEL IN VERTICAL POSITION
	3	PREPARE FOR CUTTING 1FT X 1FT HOLE IN 1/8" MILD ST EEL
	4	DRILL (4) 3/8" DIA. PILOT HOLES THRU 1/8" THICK MI LD STEEL
	5	SAW 1FT X 1FT HOLE IN 1/8" THICK MILD STEEL IN VER T- ICAL POSITION USING 5.0 AMP SABRE SAW
	6	REPLACE BROKEN BLADE IN SABRE SAW
	7	SAW TOUCH-UP CUTS IN (2) CORNERS OF 1/8" X 1FT X 1 FT HOLE USING 5.0 AMP SABRE SAW (TWO CORNERS PER 1
	8	DEBURR EDGES OF 1FT X 1FT HOLE IN 1/8" MILD STEEL USING A FILE
LAT 169	1	UNPACK DAMPER
	2	BEND SAFTY TABS
	3	INSTALL 4 NUTS AND BOLTS
	4	POSITION AND ASSEMBLE DAMPER HOLDER
	5	ASSEMBLE EXTERNAL DAMPER PARTS
	6	INSTALL AND TIGHTEN CLAMP SCREWS
	7	MARK CUTS IN PIPE FOR DAMPER
	8	CUT HOLE WITH HAND SNIPS ; ROUGH AND FINISHED
	9	CUT TAPIN TABS 24 PLACES
	10	POSITION DAMPER SEGMENT HALF
	11	DRILL LOCATION HOLES AND INSTALL SCREWS
	12	HAMMER TAPIN TABS
	13	POSITION OUTER DAMPER HALF
	14	INSTALL AND TIGHTEN SCREWS
	15	MATERIAL HANDLING
	16	CHECK OPERATION
	17	INSTALL AND ADJUST COUNTER WEIGHT
LAT 170	1	SHEAR LARGE SHEET
	2	PUNCH 9 HOLES IN SIGN
	3	MATERIAL HANDLING
LAT 171	1	CLIMB UP AND DOWN LADDER WITH HAND POWER TOOL IN H AND
	2	LAY OFF 1FT X 1FT HOLE ON 1/8" MILD STEEL IN VERT- ICAL POSITION
	3	PREPARE FOR CUTTING 1FT X 1FT HOLE IN 1/8" MILD ST L.
	4	DRILL (4) 3/8" DIA. PILOT HOLES THRU 1/8" MILD STE EL
	5	SAW 1FT X 1FT HOLE IN 1/8" MILD STEEL IN VERTICAL POSITION USING 2.3 AMP SABRE SAW
	6	REPLACE BROKEN BLADE IN SABRE SAW
	7	SAW TOUCH-UP CUTS IN (2) CORNERS OF 1FT X 1FT HOLE 1/8" THICK MILD STEEL USING 2.3 AMP SABRE SAW
	8	DEBURR EDGES OF 1FT X 1FT HOLE IN 1/8" MILD STEEL USING A FILE

LAT 172 1 POWER SHEAR 1 PIECE OF 1/2"DIA. MILD STEEL ROD ON IRON WORKER, BY SIMULTANEOUSLY CUT 3 RODS PER CUT

LAT 173 1 CUT 1/2" DIA. ROD ON POWER IRON WORKER CUT 0NE ROD PER SHEAR

LAT 174 1 MEASURE AND MARK HOLES PER FOOT
2 CENTER PUNCH EACH HOLE
3 PUNCH HOLE * OCCUR BASED ON CHG.PUNCH EVERY 20 PUN CHES
4 DEBUR HOLE ONE SIDE WITH FILE

LAT 175 1 LAY OFF 2"X2" HOLE ON 1/8" ALUMINUM IN VERTICAL PO SITION
2 DRILL (4) PILOT HOLES IN 1/8" ALUMINUM
3 SAW 2"X2" HOLE IN 1/8" ALUMINUM IN VERTICAL POSI- TION USING VARIABLE SPEED SABRE SAW
4 DEBURR EDGES OF 2"X2" HOLE IN 1/8" ALUMINUM USING A FILE

LAT 176 1 SHEAR STOCK FOR CLIP
2 PUNCH HOLE IN CLIP AVERAGE OF CHANGE PUNCH ONCE PE R 20 HOLES
3 BEND CLIP 90 DEGREES AVERAGE CHANGE THICKNESS ONCE IN 12 BENDS

LAT 177 1 FASTEN 1"DIA. REBAR JOINT WITH WIRE - PER JOINT (T WO MEN)

LAT 178 1 BEND 1/2" DIA. REBAR 90 DEG. USING ACETYLENE TORCH AND HAMMER. (TWO MEN)

LAT 179 1 LAY OFF TEMPLATE ON 2- 2" X 4" X 8FT BOARDS ON SAW - HORSES FOR REBAR FOUNDATION ASSEMBLY. TWO MEN.
2 ADDITIONAL MATERIAL HANDLING (GET 1/2" & 1" DIA. X 20FT LONG REBAR FROM TEMPOR- ARY STORAGE.(TWO MEN
3 CUT 1/2" DIA. REBAR STOCK USING ACETYLENE TORCH. (TWO MEN)
4 CUT 1" DIA. X 5 1/2FT LONG PIECES FROM REBAR STOCK USING ACETYLENE TORCH. (TWO MEN)
5 ASSEMBLE 1" DIA. X 5 1/2FT REBAR WITH 1/2" DIA. X 4 1/2FT REBAR PIECES FOR FASTENING TOGETHER. (TWO
6 LAY OFF LINES ON 1" DIA. X 5 1/2FT REBAR FOR 1/2" DIA. X 4 1/2FT PIECES OF REBAR TO BE FITTED TO. (T
7 ASSEMBLE 1/2" DIA. REBAR FOR FASTENING WITH 1" DIA . REBAR. (TWO MEN)
8 TACK WELD 1/2" DIA. REBAR JOINTS ON TOP & BOTTOM S ECTIONS OF REBAR FOUNDATION ASSEMBLY - PERIMETER,
9 FASTEN JOINTS OF REBAR WITH WIRE FOR TOP & BOTTOM SECTIONS OF REBAR FOUNDATION. (35 JOINTS/SECTION X
10 TACK WELD FOUR (4) VERTICAL, 12" LONG REBARS TO TO P & BOTTOM SECTIONS OF REBAR FOUNDATION ASSEMBLY.(

LAT 180 1 OBTAIN, TURN SMALLL TO MEDIUM PART AND RETURN TO S TAGING AREA
2 MEASURE WITH FOLDING RULE AND MARK ONE POINT MEASU RE AND MARK 8 POINTS
3 CENTER PUNCH MARK - COMPLEX, ROUND PART
4 STUDY WRITTEN INFORMATION ON DRAWING
5 REMEASURE LAYOUT - COMPLEX, FLAT, SQUARE OR ROUND

LAT 181 1 OBTAIN, THEN TURN LARGE PART AND RETURN TO STAGING AREA
2 MEASURE WITH FOLDING RULE AND MARK ONE POINT MEASU RE AND MARK 4 POINTS
3 SCRIBE A LINE WITH COMBINATION SQUARE SQUARE AND S CRIBE 4 LINES
4 CENTER PUNCH MARK - SIMPLE, FLAT OR SQUARE PART
5 STUDY WRITTEN INFORMATION ON DRAWING
6 REMEASURE LAYOUT - SIMPLE, FLAT SQUARE OR ROUND

LAT 182 1 OBTAIN, TURN LARGE PART AND RETURN TO STAGING AREA
2 MEASURE WITH FOLDING RULE AND MARK ONE POINT MEASU RE AND MARK 4 POINTS
3 CENTER PUNCH MARK - SIMPLE ROUND PART
4 STUDY WRITTEN INFORMATION ON DRAWING
5 REMEASURE LAYOUT - SIMPLE, FLAT, SQUARE OR ROUND

LAT 183 1 OBTAIN, TURN LARGE PART AND RETURN TO STAGING AREA
2 MEASURE WITH FOLDING RULE AND MARK ONE POINT MEASU RE AND MARK 8 POINTS
3 SCRIBE A LINE WITH COMBINATION SQUARE SQUARE AND S CRIBE 12 LINES
4 CENTER PUNCH MARK, COMPLEX, FLAT OR SQUARE PART
5 STUDY WRITTEN INFORMATION ON DRAWING STUDY DRAWING S TWICE
6 REMEASURE LAYOUT - COMPLEX, FLAT, SQUARE OR ROUND

LAT 184 1 OBTAIN, TURN LARGE PART AND RETURN TO STAGING AREA
2 MEASURE WITH FOLDING RULE AND MARK OUT POINT MEASU RE AND MARK 8 POINTS
3 CENTER PUNCH MARK, COMPLEX, ROUND PART
4 STUDY WRITTEN INFORMATION ON DRAWING STUDY DRAWING S TWICE
5 REMEASURE LAYOUT - COMPLEX, FLAT, SQUARE OR ROUND

LAT 185 1 CLEAN SOLDERING IRON
2 HEAT TWO SOLDERING IRONS WITH FIRE POT, BLOW TORCH OR GAS BURNER
3 ASSEMBLE SMALL OR MEDIUM SHEET OR PART FOR SOLDERI NG
4 CLEAN AND FLUX SOLDERED SURFACE PER INCH
5 APPLY SOLDER (PER INCH)

LAT 186
1 CLEAN SOLDERING IRON
2 HEAT SOLDERING IRON ELECTRICALLY
3 ASSEMBLE SMALL OR MEDIUM SHEET OR PART FOR SOLDERING
4 CLEAN AND FLUX SOLDERED SURFACE (PER INCH)
5 APPLY SOLDER (PER INCH)

LAT 187
1 CLEAN SOLDERING IRON
2 HEAT TWO SOLDERING IRONS WITH FIRE POT, BLOW TORCH OR GAS BURNER
3 ASSEMBLE LARGE SHEET OR PART
4 CLEAN AND FLUX SOLDERED SURFACE, PER INCH
5 APPLY SOLDER, PER INCH

LAT 188
1 CLEAN SOLDERING IRON
2 HEAT SOLDERING IRON ELECTRICALLY
3 ASSEMBLE LARGE SHEET OR PART
4 CLEAN AND FLUX SOLDERED SURFACE, PER INCH
5 APPLY SOLDER, PER INCH

LAT 189
1 CLEAN SOLDERING IRON
2 HEAT TWO SOLDERING IRONS WITH FIRE POT. BLOW TORCH OR GAS BURNER
3 CLEAN AND FLUX SOLDERED SURFACE, PER INCH
4 APPLY SOLDER, PER INCH

LAT 190
1 CLEAN SOLDERING IRON
2 HEAT SOLDERING IRON ELECTRICALLY
3 CLEAN AND FLUX SOLDERING SURFACE, PER INCH
4 APPLY SOLDER, PER INCH

LAT 191
1 UNWRAP POST FROM PLASTIC BAG
2 MATERIAL HANDLING TO POSITION PART (PICK UP POSITION AND ASIDE)

LAT 192
1 UNWRAP SHELF FROM PLASTIC
2 PICK UP AND POSITION AND ASIDE SHELF
3 USE DRIFT PIN TO ALIGN HOLES
4 USE VICE GRIPS TO HOLD ALIGNED PARTS
5 INSTALL BOLTS IN SHELF

LAT 193
1 UNWRAP SHELF FROM PLASTIC
2 PICK UP AND POSITION AND ASIDE SHELF
3 INSTALL CLIP IN POST (1 CLIP PER POST & 4 PER SHELF IN LAT-206)

LAT 194
1 UNWRAP BRACES FROM PLASTIC
2 MATERIAL HANDLING (2 SIDE BRACES PER 2 POST IN SHELF ONLY FABRICATION)
3 USE DRIFT PIN TO ALIGN PART HOLES
4 USE VICE GRIPS TO HOLD PARTS ALIGNED
5 INSTALL BOLTS IN SIDE BRACE

LAT 195 1 UNWRAP BACK BRACE FROM PLASTIC BAG
2 PICK UP , POSITION , ASIDE PARTS
3 USE DRIFT PIN TO ALIGN HOLES (ONLY REQUIRED 2 PLACES)
4 USE VICE CRIPS TO HOLD PARTS IN ALIGNMENT
5 INSTALL BOLTS

LAT 196 1 UNWRAP SIDE PANEL FROM PLASTIC
2 PICK UP, POSITION AND ASIDE PART
3 USE VICE GRIPS HOLD PARTS IN POSITION
4 USE DRIFT PIN TO ALIGN HOLES
5 INSTALL BOLTS IN SIDE PANEL

LAT 197 1 UNWRAP BACK PANEL FROM PLASTIC
2 PICK UP, POSITION AND ASIDE PANEL
3 USE VICE GRIPS TO HOLD PARTS IN POSITION
4 USE DRIFT PIN TO ALIGN PART HOLES
5 INSTALL BOLTS IN BACKPANEL

LAT 198 1 UNWRAP BASESTRIP FROM PLASTIC BAG
2 PICK UP , POSITION AND ASIDE
3 USE DRIFT PIN TO ALIGN HOLES
4 USE VICE GRIPS TO HOLD PARTS IN POSITION
5 INSTALL BOLTS IN BASE PLATE

LAT 199 1 UNWRAP SHELF REINFORCEMENT FROM PLASTIC BAG
2 PICK UP , POSITION AND ASIDE

LAT 200 1 UNWRAP BIN FRONT FROM PLASTIC BAG
2 PICK UP , POSITION AND ASIDE PART
3 USE DRIFT PIN TO ALIGN HOLES
4 USE VICE GRIPS TO HOLD PARTS IN POSITION
5 INSTALL BOLTS IN BIN FRONT

LAT 201 1 UNWRAP SHELF DIVIDER FROM PLASTIC BAG
2 PICK UP,POSITION AND ASIDE PART

LAT 202 1 UNWRAP DRAWER FROM PLASTIC BAG
2 PICK UP, POSITION AND ASIDE PARTS
3 ALIGN HOLES USING DRIFT PIN
4 USE VICE GRIPS TO HOLD PARTS IN POSITION
5 INSTALL BOLTS IN PARTS

LAT 203 1 UNWRAP DRAWER DIVIDER FROM PLASTIC BAG
2 PICK UP , POSITION AND ASIDE PART
3 USE DRIFT PIN TO ALIGN HOLES
4 USE VICE GRIPS TO HOLD PART IN POSITION
5 INSTALL BOLTS IN DIVIDER

LAT 204 1 UNWRAP DOOR FROM PLASTIC BAG
2 PICK UP , POSITION AND ASIDE DOOR
3 USE DRIFT PIN TO ALIGN HOLES IN DOOR
4 USE VICE GRIPS TO HOLD PARTS IN POSITION
5 INSTALL BOLTS IN DOOR

LAT 205 1 UNWRAP ANGLE SWAYS .. 6 PER UNIT
2 PICK UP, POSITION , AND ASIDE SWAY AND COMPONENT
3 INSTALL SCREWS AND NUTS IN ANGLE BRACE

LAT 206 1 .
2 PICK UP CLIP AND POSITION IN UPRIGHT POST

LAT 207 1 UNWRAP CLIP FROM PLASTIC BAG (24 CLIPS PER BAG)
2 INSTALL 4 CLIPS - 1 IN EACH UPRIGHT POST TO RECEIV
E SHELF
3 PICK UP, POSITION AND FIT SHELF TO CLIPS

LAT 208 1 ASSEMBLE POST TO TOP AND BOTTON SHELF
2 ASSEMBLE SHELVES WITH NUTS AND BOLTS
3 ASSEMBLE SHELF WITH ANGLE SWAYS 6 PER UNIT USED 50
% TIME
4 ASSEMBLE SIDE BRACE (USED 50% TIME)
5 BACK BRACE

LAT 209 1 ASSEMBLE POST TO TOP AND BOTTOM SHELF
2 ASSEMBLY TOP & BOTTOM SHELF WITH SCREWS AND NUTS
3 ASSEMBLE SHELVES TO UPRIGHT POST WITH CLIP INSTALL
ATION PER SHELF
4 ASSEMBLE SIDE BRACE TO UPRIGHT POST
5 ASSEMBLE BACK BRACE TO UPRIGHT POST

LAT 210 1 PICK UP BIN DRAWER AND PLACE IN POSITION ON SHELF
AND RETURN FOR NEXT

LAT 211 1 ASSEMBLE 4 UP RIGHT POST OF SINGLE INDEPENDENT UNI
TS: ONE NOT SHARING POST, BACK, OR SIDES WITH ADJA
2 ASSEMBLE SHELFS TO POST (ANY NUMBER) NORMALLY STOR
AGE SHELVES ARE CONSTRUCTED WITH : 4,5,6,7 SHELVES
3 ASSEMBLY SIDE BRACES OF SINGLE INDEPENDENT UNITS:
ONE NOT SHARING POST, BACK, SIDES WITH ADJACENT UN
4 ASSEMBLE BACK BRACE OF SINGLE INDEPENDENT UNITS: O
NE NOT SHARING UP RIGHT POST, BACK, OR SIDES WITH
5 ASSEMBLE BASE STRIP OF UNIT.KICK PLATE IS TO BLOCK
DIRT AND DEBRIS FROM UNDER UNIT.
6 SHELF REINFORCEMENT -(USUALLY REQUIRED WITH SHELV
ES LARGER THAN 12"X36" OR WITH HEAVY LOADS), ADD 2

LAT 212 1 ASSEMBLE BACK BRACE TO UP RIGHT POST OF SINGLE IND
EPENDENT UNITS: ONE NOT SHARING POST, BACKS, OR SI
2 ASSEMBLE UP RIGHT POST TO OTHER COMPONENTS OF SING
LE INDEPENDENT UNITS: ONE NOT SHARING POST, BACK,
3 ASSEMBLE SIDE BRACES TO UP RIGHT POST OF SINGLE IN
DEPENDENT UNITS: ONE NOT SHARING POST, BACKS, OR S
4 ASSEMBLE SHELVES TO UP RIGHT POST (ANY NUMBER): (N
ORMALLY STORAGE SHELVES ARE CONSTRUCTED WITH : 4,5
5 ASSEMBLE SHELVES TO UPRIGHT POST (ANY NUMBER) WITH
CLIP ATTACHMENT FASTENERS
6 ASSEMBLE BASE STRIP TO UNIT: (KICK PLATE TO BLOCK
DIRT & DEBRIS FROM UNDER UNIT)
7 SHELF REINFORCEMENT -(USUALLY REQUIRED WITH SHELV
ES LARGER THAN 12"X36" OR WITH HEAVY LOADS).

LAT 213 1 ASSEMBLE BACK PANEL TO UNIT OF SINGLE INDEPENDENT UNITS: ONE NOT SHARING POST, BACKS, OR SIDES WITH
2 ASSEMBLE UP RIGHT POST OF SINGLE INDEPENDENT UNITS : ONE NOT SHARING POST, BACKS, OR SIDES OF ADJACEN
3 ASSEMBLE SIDE PANELS OF SINGLE INDEPENDENT UNITS: ONE NOT SHARING POST, BACKS, SIDES OF ADJACENT UNI
4 ASSEMBLE SHELVES TO POST (ANY NUMBER) NORMALLY STORAGE SHELVES ARE CONSTRUCTED WITH : 4,5,6,7, SHE
5 ASSEMBLE BASE STRIP TO UNIT (KICK PLATE TO BLOCK DIRT AND DEBRIS FROM UNDER UNIT)
6 SHELF REINFORCEMENT -(USUALLY REQUIRED WITH SHELVES LARGER THAN 12"X36" OR HEAVY LOADS).

LAT 214 1 ASSEMBLE BACK PANEL OF SINGLE INDEPENDENT UNITS: ONES NOT SHARING POST, BACKS, OR SIDES OF ADJACENT
2 ASSEMBLE POST OF SINGLE INDEPENDENT UNIT: ONE NOT SHARING POST, BACKS, OR SIDES OF ADJACENT UNITS.
3 ASSEMBLE SIDE PANELS OF SINGLE INDEPENDENT UNITS: ONES NOT SHARING POST, BACKS, OR SIDES OF ADJACENT
4 ASSEMBLE TOP AND BOTTOM SHELVES
5 ASSEMBLE SHELVES TO POST USING CLIPS (ANY NUMBER) NORMALLY STORAGE SHELVES ARE CONSTRUCTED WITH : 4
6 ASSEMBLE BASE STRIP TO UNIT (KICK PLATE DESIGNED TO BLOCK DIRT & DEBRIS FROM UNDER UNIT)
7 SHELF REINFORCEMENT - (USUALLY REQUIRED WITH SHELVES LARGER THAN 12"X36" OR HEAVY LOADS. ADD 2 PER S

LAT 215 1 ASSEMBLE INDEPENDENT SHELF UNITS, WITH SIDES, BACK PANEL & ALL SCREW FASTENER SHELVES. INCLUDED: BAC
2 ASSEMBLE N BIN FRONTS ON UNITS. USUALLY 1 BIN FRONT IS USED PER SHELF EXCEPT FOR THE VERY TOP SHELF.
3 ASSEMBLE BIN DRAWER IN UNIT (ANY NUMBER). DUE TO VARIATIONS IN SHELF & BIN DRAWER SIZES/USE THE NUMB

LAT 216 1 ASSEMBLE BACK PANEL OF DEPENDENT UNITS: THIS UNIT SHARING POST, BACK & SIDES.
2 ASSEMBLE POST OF DEPENDENT UNIT :(SHARING POST, BACKS & SIDES.) (AVERAGE OCCURANCE = 1.5 POST ADDITI
3 ASSEMBLE SHELVES TO POST.(ANY NUMBER) NORMALLY STORAGE SHELVES ARE CONSTRUCTED WITH : 4,5,6,7, SHELV
4 ASSEMBLE BASE STRIP TO UNIT
5 SHELF REINFORCEMENT(USUALLY REQUIRED WITH SHELVES LARGER THAN 12"X36" OR HEAVY LOADS) USE 2 PER SHEL

LAT 217 1 .
2 ASSEMBLE BACK TO DEPENDENT UNIT SHARING SIDES & BACK
3 ASSEMBLE UP RIGHT POST OF DEPENDENT UNIT SHARING SIDES AND BACK (AVERAGE 1.5 POST REQUIRED PER ADDIT
4 ASSEMBLE SIDE PANELS OF DEPENDENT UNITS SHARING SIDES AND BACKS.
5 ASSEMBLE SHELVES TO POST (ANY NUMBER) NORMALLY STORAGE SHELVES ARE CONSTRUCTED WITH : 4,5,6,7, SHELV
6 ASSEMBLE BASE STRIP TO UNIT
7 SHELF REINFORCEMENT
8 ASSEMBLE N FRONT BINS ON UNIT . USUALLY 1 BIN FRONT IS USED PER SHELF EXCEPT FOR THE VERY TOP SHELF
9 ASSEMBLE BIN DRAWER IN UNIT, (ANY NUMBER). DUE TO VARIATIONS IN SHELF & BIN DRAWER SIZES/USE THE NU

LAT 218 1 SET THYRATRON CONTROLS ONCE TO SET, ONCE TO ADJUST , AVERAGE
2 TURN POWER SWITCH ON OR OFF TURN SWITCH ON AND OFF
3 ADJUST WELD CYCLE DIALS ONCE TO SET, ONCE TO ADJUS T, AVERAGE
4 CLEAN TIPS
5 CHANGE TIPS CHANGE TIPS AVERAGE OF ONCE PER EACH T HREE SETUPS
6 CHANGE THROAT DEPTH CHANGE THROAT DEPTH ONCE PER E ACH EIGHT SETUPS

LAT 219 1 ASSEMBLE AND SPOTWELD ONE SMALL PART TO SMALL ASSE MBLY, NO FIXTURE TO OBTAIN AVERAGE AS BETWEEN SMAL
2 ASSEMBLE AND SPOTWELD ONE SMALL PART TO MEDIUM ASS EMBLY, NO FIXTURE TO OBTAIN AVERAGE AS BETWEEN SMA
3 MOVE SMALL ASSEMBLY TO MACHINE AND RETURN TO OBTAI N AVERAGE FOR MOVING SMALL AND MEDIUM ASSEMBLIES
4 MOVE MEDIUM ASSEMBLY TO MACHINE AND RETURN TO OBTA IN AVERAGE FOR MOVING SMALL AND MEDIUM ASSEMBLIES

LAT 220 1 POSITION MEDIUM PART TO NEXT LOCATION AND SPOTWELD AVERAGE OF SEVEN POSITIONS AND SPOTWELD FOR EACH
2 TURN MEDIUM PART UP TO 180 DEGREES AND SPOTWELD TU RN PART TWICE FOR EACH ASSEMBLY
3 ASSEMBLE MEDIUM PART FOR SPOTWELDING, NO FIXTURE
4 MOVE MEDIUM ASSEMBLY TO MACHINE AND RETURN

LAT 221 1 ASSEMBLE IN FIXTURE AND SPOTWELD ONE SMALL PART TO SMALL ASSEMBLY AND REMOVE TO OBTAIN AVERAGE AS BE
2 ASSEMBLE IN FIXTURE AND SPOTWELD ONE SMALL PART TO MEDIUM ASSEMBLY AND REMOVE TO OBTAIN AVERAGE AS B
3 MOVE SMALL ASSEMBLY TO MACHINE AND RETURN TO OBTAI N AVERAGE FOR MOVING SMALL AND MEDIUM ASSEMBLIES
4 MOVE MEDIUM ASSEMBLY TO MACHINE AND RETURN TO OBTA IN AVERAGE FOR MOVING SMALL AND MEDIUM ASSEMBLIES

LAT 222 1 POSITION MEDIUM PART TO NEXT LOCATION AND SPOTWELD AVERAGE TIMES POSITION AND SPOTWELD FOR EACHASSE
2 TURN MEDIUM PART UP TO 180 DEGREES AND SPOTWELD TU RN PART TWICE FOR EACH ASSEMBLY OPERATION
3 ASSEMBLE MEDIUM PART FOR SPOTWELDING, USING FIXTUR E
4 MOVE MEDIUM ASSEMBLY TO MACHINE AND RETURN

LAT 223 1 SET UP MACHINE
2 PICK UP, POSITION AND LAY ASIDE METAL SHEET
3 FORM AND INSPECT LOCK SEAM

LAT 224 1 TURN SHEAR ON AND OFF
2 MOVE SMALL, MEDIUM, OR LARGE SHEET FROM VERTICAL R ACK TO LAYOUT AREA OR SHEAR (PER MAN)
3 POSITION OR REPOSITION, SMALL SHEET IN SHEAR
4 SHEAR METAL-SINGLE CUT
5 LAY SMALL, MEDIUM, OR LARGE SHEET ASIDE

LAT 225 1 TURN SHEAR ON AND OFF
2 MOVE SMALL, MEDIUM, OR LARGE SHEET FROM VERTICAL R ACK TO LAYOUT AREA OR SHEAR (PER MAN) TWO MEN CARR
3 POSITION OR REPOSITION, MEDIUM, OR LARGE SHEET IN SHEAR (PER MAN) TWO MEN POSITION SHEET
4 SHEAR METAL-SINGLE CUT TWO MEN HOLD SHEET DURING C UT
5 LAY SMALL, MEDIUM, OR LARGE SHEET ASIDE TWO MEN RE MOVE SHEET

LAT 226 1 TURN SHEAR ON AND OFF
2 MOVE SMALL, MEDIUM, OR LARGE SHEET FROM VERTICAL R ACK TO LAYOUT AREA OR SHEAR (PER MAN) THREE MEN CA
3 POSITION OR REPOSITION, MEDIUM OR LARGE SHEET IN S HEAR (PER MAN) THREE MEN POSITION SHEET
4 SHEAR METAL-SINGLE CUT THREE MEN HOLD SHEET DURING CUT
5 LAY SMALL, MEDIUM, OR LARGE SHEET ASIDE THREE MEN REMOVE SHEET

LAT 227 1 SHEAR SMALL SHEET (ONE CUT)
2 TURN SMALL SHEET TO NEW POSITION AND MAKE ADDITION AL SHEAR (WHERE N = NUMBER OF CUTS MADE PER SHEET)

LAT 228 1 SHEAR MEDIUM SHEET (ONE CUT)
2 TURN MEDIUM SHEET TO NEW POSITION AND MAKE ADDITIO NAL SHEAR

LAT 229 1 SHEAR LARGE SHEET (ONE CUT)
2 TURN LARGE SHEET TO NEW POSITION AND MAKE ADDITION AL SHEAR (WHERE N = NUMBER OF CUTS MADE PER SHEET

LAT 230 1 CARRY TO MACHINE & CARRY BACK (IRON/SHAPES <1.5") STOCK=...ANGLE.. <(.25"X 1.5"X 1.5")
2 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG)
3 SHEAR, FE/SHAPES-RND.OR SQ., (ONE CUT)
4 REMOVE AND REPLACE PIN ON HOLD DOWN SCREW
5 START AND STOP MOTOR
6 LAY ASIDE SCRAP PIECE, (FE/SHAPES <1.5") STOCK=. .ANGLE..<(.25"/ 1.5"/ 1.5")BARS....3/4"

LAT 231 1 CARRY TO MACHINE & CARRY BACK (FE/SHAPES<1.5) STO CK=...ANGLE..<(.25"X 1.5"X 1.5")BAR...<3/4", FLATS
2 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG) PLAC E ANGLE IRON ON PORTABLE ROLLER, WITH EACH END FAC
3 SHEAR ANGLE IRON-ROUND OR SQUARE BARS (ONE CUT) SH EAR BOTH ENDS
4 REMOVE AND REPLACE PIN ON HOLD DOWN SCREW
5 START AND STOP MOTOR
6 LAY ASIDE SCRAP PIECE, LESS THAN 1-1/2" X 1-1/2" X 1/4" ANGLES, 3/4" BARS AND 1/4" X 6" FLATS SCRAP
7 TURN MATERIAL END FOR END

LAT 232
1 CARRY PIECE TO MACHINE AND CARRY BACK - ANGLE LESS THAN 1-1/2" X 1-1/2" X 1/4"; 3/4" BARS AND 1/4" X
2 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG)
3 SHEAR ANGLE IRON-ROUND OR SQUARE BARS (ONE CUT) (WHERE N = NUMBER OF CUTS)
4 REMOVE AND REPLACE PIN ON HOLD DOWN SCREW
5 START AND STOP MOTOR
6 LAY ASIDE SCRAP PIECE, LESS THAN 1-1/2" X 1-1/2" X 1/4" ANGLES, 3/4" BARS AND 1/4" X 6" FLATS SCRAP

LAT 233
1 SHEAR ANGLE IRON 90 DEGREES (ONE END), LESS THAN 1-1/2" X 1-1/2" X 1/4", ROUND OR SQUARE BARS LESS T
2 REMOVE AND RELOCATE PIN TO CONTROL DEGREE OF CUT

LAT 234
1 SHEAR ANGLE IRON 90 DEGREES (BOTH ENDS), LESS THAN 1-1/2" X 1-1/2" X 1/4"; ROUND OR SQUARE BARS LESS
2 REMOVE AND RELOCATE PIN TO CONTROL DEGREE OF CUT REMOVE AND RELOCATE PIN-EACH END

LAT 235
1 SHEAR ANGLE IRON 90 DEGREES (MORE THAN 2 CUTS), LESS THAN 1-1/2" X 1-1/2" X 1/4"; ROUND OR SQUARE B
2 REMOVE AND RELOCATE PIN TO CONTROL DEGREE OF CUT (WHERE N = NUMBER OF CUTS)

LAT 236
1 SHEAR ANGLE IRON 11-1/4 DEGREES, 22-1/2" DEGREES, 45 DEGREES (BOTH ENDS), LESS THAN 1-1/2" X 1-1/2"
2 WALK AROUND MACHINE TO SHEAR (ANGLE ONLY) FROM BACK OF MACHINE WALK TO BACK OF MACHINE AND RETURN

LAT 237
1 TURN MATERIAL END FOR END
2 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG)
3 SHEAR ANGLE IRON-ROUND OR SQUARE BARS (ONE CUT)
4 LAY ASIDE SCRAP PIECE, LESS THAN 1-1/2" X 1-1/2" X 1/4" ANGLES, 3/4" BARS AND 1/4" X 6" FLATS

LAT 238
1 SHEAR FLAT BARS (ONE CUT)
2 CARRY PIECE TO MACHINE AND CARRY BACK-ANGLE LESS THAN 1-1/2" X 1-1/2" X 1/4"; 3/4" BARS & 1/4" X 6"
3 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG)
4 START AND STOP MOTOR
5 LAY ASIDE SCRAP PIECE, LESS THAN 1-1/2" X 1-1/2" X 1/4" ANGLES, 3/4" BARS AND 1/4" X 6" FLATS

LAT 239
1 SHEAR FLAT BARS (ONE CUT)
2 CARRY PIECE TO MACHINE AND CARRY BACK-ANGLE 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4"; UP TO 1-5/8" B
3 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG)
4 START AND STOP MOTOR
5 LAY ASIDE LEFT OVER PIECE, ANGLES 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4", UP TO 1-5/8" BARS AND UP

LAT 240
1 SHEAR ANGLE IRON-ROUND OR SQUARE BARS (ONE CUT)
2 MOVE PIECE THROUGH SHEAR TO MARK
3 REMOVE AND REPLACE NOTCH CUTTER SHIELD

LAT 241
1 CARRY PIECE TO MACHINE AND CARRY BACK - ANGLE 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4"; UP TO 1-5/8"
2 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG)
3 SHEAR ANGLE IRON-ROUND OR SQUARE BARS (ONE CUT)
4 REMOVE AND REPLACE PIN ON HOLD DOWN SCREW
5 START AND STOP MOTOR
6 LAY ASIDE LEFT OVER PIECE, ANGLES 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4", UP TO 1-5/8" BARS AND UP

LAT 242
1 CARRY PIECE TO MACHINE AND CARRY BACK-ANGLE 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4"; UP TO 1-5/8" B
2 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG) FACE CUTTING BLADE WITH ANGLE-EACH END
3 SHEAR ANGLE IRON-ROUND OR SQUARE BARS (ONE CUT) SH EAR BOTH ENDS
4 REMOVE AND REPLACE PIN ON HOLD DOWN SCREW
5 START AND STOP MOTOR
6 LAY ASIDE LEFT OVER PIECE, ANGLES 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4", UP TO 1-5/8" BARS AND UP
7 TURN MATERIAL END FOR END

LAT 243
1 CARRY PIECE TO MACHINE AND CARRY BACK-ANGLE 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4"; UP TO 1-5/8" B
2 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG)
3 SHEAR ANGLE IRON-ROUND OR SQUARE BARS (ONE CUT) (W HERE N = NUMBER OF CUTS)
4 REMOVE AND REPLACE PIN ON HOLD DOWN SCREW
5 START AND STOP MOTOR
6 LAY ASIDE LEFT OVER PIECE, ANGLES 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4", UP TO 1-5/8" BARS AND UP

LAT 244
1 SHEAR ANGLE IRON 90 DEGREES (ONE END), 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4"; ROUND OR SQUARE BAR
2 REMOVE AND RELOCATE PIN TO CONTROL DEGREE OF CUT

LAT 245
1 SHEAR ANGLE IRON 90 DEGREES (BOTH ENDS), 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4"; ROUND OR SQUARE B
2 REMOVE AND RELOCATE PIN TO CONTROL DEGREE OF CUT R EMOVE AND RELOCATE PIN - EACH END

LAT 246
1 SHEAR ANGLE IRON 90 DEGREES (MORE THAN 2 CUTS), 1-1/2" X 1-1/2" X 1/4" TO 3" X 3" X 1/4"; RND./SQ. B
2 REMOVE AND RELOCATE PIN TO CONTROL DEGREE OF CUT (WHERE N = NUMBER OF CUTS)

LAT 247 1 SHEAR ANGLE IRON 11-1/4 DEGREES, 22-1/2 DEGREES, 4
5 DEGREES (BOTH ENDS), 1-1/2" X 1-1/2" X 1/4" TO
2 WALK AROUND MACHINE TO SHEAR (ANGLE ONLY) FROM BAC
K OF MACHINE WALK TO BACK OF MACHINE AND RETURN

LAT 248 1 TURN MATERIAL END FOR END
2 PLACE PIECE ON PORTABLE ROLLER (OVER 4" LONG)
3 SHEAR ANGLE IRON-ROUND OR SQUARE BARS (ONE CUT)
4 LAY ASIDE LEFT OVER PIECE, ANGLES 1-1/2" X 1-1/2"
X 1/4" TO 3" X 3" X 1/4", UP TO 1-5/8" BARS AND UP

LAT 249 1 CHANGE, SETTING FOR METAL THICKNESS SETUP FOR EACH
JOB (AVERAGE 10 BENDS PER CHG.OF THICKNESS). (LE
2 ADJUST BEND ANGLE....(LEAF BRAKE). SET UP FOR EACH
JOB, (AVERAGE CHG.PER 4 BENDS)
3 RAISE AND LOWER CLAMP DOWN BAR...(LEAF BRAKE)....
CLAMP ASSUMED LOWERED, RAISED TWICE & LOWERED ONCE
4 MOVE SMALL SHEET FROM LAYOUT TO BRAKE... (ONCE PER
SHEET..AVERAGE.2 BENDS PER SHEET) (LEAF BRAKE)
5 POSITION, SMALL SHEET,IN BRAKE TO LAYOUT LINE, ONC
E PER SHEET FOR FIRST BEND.....(LEAF BRAKE)
6 RAISE & LOWER LEAF....(LEAF BRAKE) ONCE PER SHEET
FOR FIRST BEND
7 REMOVE SMALL SHEET FROM BRAKE & LAY ASIDE.....
ONCE PER SHEET...AVERAGE 2 BENDS PER SHEET.
8 CHECK BEND REQUIRED FOR FIRST BEND..AVERAGE 2 BEND
S PER SHEET (LEAF BRAKE)

LAT 250 1 CHANGE BRAKE SETTING FOR METAL.....(LEAF BRAKE)..
(AVERAGE OF 10 BENDS PER CHG. OF THICKNESS) (OCCU
2 ADJUST BEND ANGLE...(AVERAGE OF 4 BENDS, ONE REQUI
RES ADJUSTMENT; LEAF BRAKE).
3 RAISE AND LOWER CLAMP DOWN BAR.....(LEAF BRAKE)..
CLAMP ASSUMED CLOSED, RAISED TWICE & LOWERED ONCE
4 MOVE MEDIUM TO LARGE SHEET FROM LAYOUT TO BRAKE...
(AVERAGE OF 2 BENDS PER SHEET) TWO MEN REQUIRED P
5 POSITION MEDIUM TO LARGE SHEET TO LAYOUT LINE.....
(LEAF BRAKE) TWO MEN REQUIRED PER SHEET, REQUIRED
6 RAISE AND LOWER LEAF.....(LEAF BRAKE).. TWO
MEN REQUIRED PER SHEET, REQUIRED 1ST BEND
7 REMOVE MEDIUM TO LARGE SHEET AND LAY ASIDE.... (2
MEN REQUIRED, PER SHEET & 1ST BEND)..... (AVERAGE
8 CHECK BEND (ONCE PER SHEET & 1ST BEND)(AVERAGE OF
2 BENDS PER SHEET).....(LEAF BRAKE)

LAT 251 1 MAKE 1ST.BEND OF 2 OR MORE BENDS
2 MAKE ADDL.BEND OF TWO OR MORE BENDS

LAT 252 1 BEND MEDIUM SHEET 1ST.BEND OF TWO OR MORE BENDS
2 MADE ADDL.BEND OF MEDIUM SHEET, 2 OR MORE BENDS

LAT 253 1 WALK FROM WORK BENCH TO LEAF (HAND) BRAKE AND RETU
RN (.00150/10 PACES X 28 PACES (ROUNDTRIP))
2 ADJUST HAND BRAKE FOR 1/8" THICK METAL
3 TURN, POSITION, CLAMP, BEND, AND CHECK 4 1/2" X 1
1/2" X 1/8" PIECE OF METAL ON HAND BRAKE - PER BEN

LAT 254 1 PUNCH HOLE IN LARGE SHEET METAL PART WITH A MANUAL
LY OPERATED PORTABLE (APPROXIMATELY TWO POUNDS) PU
2 PUNCH ADDITIONAL HOLE IN SMALL, MEDIUM, OR LARGE S
HEET METAL PART WITH A MANUALLY OPERATED PORTABLE

LAT 255 1 AVERAGE TIME FOR PUNCHING HOLE IN SMALL AND MEDIUM
SHEET METAL PARTS WITH A MANUALLY OPERATED PORTAB
2 PUNCH ADDITIONAL HOLE IN SMALL, MEDIUM, OR LARGE S
HEET METAL PART WITH A MANUALLY OPERATED PORTABLE

LAT 256 1 PUNCH HOLE IN LARGE SHEET METAL PART WITH A MANUAL
LY OPERATED PORTABLE (APPROXIMATELY 15 POUNDS) PUN
2 PUNCH ADDITIONAL HOLE IN SMALL, MEDIUM, OR LARGE S
HEET METAL PART WITH A MANUALLY OPERATED PORTABLE

LAT 257 1 PUNCH HOLE IN SMALL SHEET METAL PART WITH A MANUAL
LY OPERATED STATIONARY PUNCH
2 PUNCH ADDITIONAL HOLE IN SMALL SHEET METAL PART WI
TH A MANUALLY OPERATED STATIONARY PUNCH (WHERE N =

LAT 258 1 PUNCH HOLE IN MEDIUM SHEET METAL PART WITH A MANUA
LLY OPERATED STATIONARY PUNCH
2 PUNCH ADDITIONAL HOLE IN MEDIUM SHEET METAL PART W
ITH A MANUALLY OPERATED STATIONARY PUNCH (WHERE N

LAT 259 1 PUNCH HOLE IN LARGE SHEET METAL PART WITH A STATIO
NARY PUNCH
2 PUNCH ADDITIONAL HOLE IN LARGE SHEET METAL PART WI
TH A MANUALLY OPERATED STATIONARY PUNCH (WHERE N =

LAT 260 1 SET UP MACHINE, STRAIGHT OR IRREGULAR CUT-PER JOB
2 HANDLE AND PREPARE TO CUT MATERIAL, STRAIGHT OR IR
REGULAR-PER PIECE (WHERE N1 = NUMBER OF PIECES)
3 NIBBLING MACHINE PROCESS TIME (PER FOOT) (WHERE N2
= TOTAL NUMBER OF FEET CUT)

LAT 261 1 SET UP MACHINE, CIRCLE CUT-PER JOB
2 HANDLE AND PREPARE TO CUT MATERIAL, CIRCULAR - PER
PIECE (WHERE N1 = NUMBER OF PIECES)
3 NIBBLING MACHINE PROCESS TIME (PER FOOT) (WHERE N2
= TOTAL NUMBER OF FEET CUT)

LAT 262 1 SET UP MACHINE, STRAIGHT OR IRREGULAR CUT..PER JOB
2 HANDLE AND PREPARE TO CUT MATERIAL, STRAIGHT OR IR
REGULAR - PER PIECE
3 NIBBLING MACHINE PROCESS TIME (PER FOOT) MACHINE T
IME TO PROCESS SIX FEET OF CUT

LAT 263 1 SET UP MACHINE, CIRCLE CUT..PER JOB
2 HANDLE AND PREPARE TO CUT MATERIAL, CIRCULAR...PER PIECE
3 NIBBLING MACHINE PROCESS TIME (PER FOOT) MACHINE T IME TO PROCESS SIX FEET OF CUT

LAT 264 1 SET UP MACHINE, CIRCLE CUT-PER JOB
2 HANDLE AND PREPARE TO CUT MATERIAL, CIRCULAR-PER P IECE
3 NIBBLING MACHINE PROCESS TIME (PER FOOT) MACHINE T IME TO PROCESS 12 FEET OF CUT

LAT 265 1 OBTAIN, SET UP AND RETURN PORTABLE DRILL
2 OBTAIN AND RETURN POWER NUT RUNNER OR SCREWDRIVER
3 PREPARE TO DRILL, POSITION DRILL AND WITHDRAW (WHE RE N = NUMBER OF BOLTS)
4 PICK UP, POSITION, ASSEMBLE AND TIGHTEN BOLT AND N UT (UP TO 5/8") FOR FIT UP OR FINAL ASSEMBLY, PER
5 DRILL STEEL 3/16" DEEP (WHERE N = NUMBER OF BOLTS)

LAT 266 1 OBTAIN, SET UP AND RETURN PORTABLE DRILL
2 OBTAIN AND RETURN POWER NUT RUNNER OR SCREWDRIVER
3 PREPARE TO DRILL, POSITION DRILL AND WITHDRAW (WHE RE N = NUMBER OF BOLTS)
4 PICK UP, POSITION, ASSEMBLE AND TIGHTEN BOLT & NUT (UP TO 5/8") FOR FIT UP OR FINAL ASSEMBLY, PER BO
5 DRILL BRASS OR ALUMINUM 3/16" DEEP

LAT 267 1 OBTAIN, SET UP AND RETURN PORTABLE DRILL
2 OBTAIN AND RETURN POWER NUT RUNNER OR SCREWDRIVER
3 PREPARE TO DRILL, POSITION DRILL AND WITHDRAW (WHE RE N = NUMBER OF BOLTS)
4 PICK UP, POSITION, ASSEMBLE AND TIGHTEN BOLT & NUT (UP TO 5/8") FOR FIT UP OR FINAL ASSEMBLY, PER BO
5 DRILL CAST IRON OR BRONZE 3/16" DEEP (WHERE N = NU MBER OF BOLTS)

LAT 268 1 OBTAIN, SET UP AND RETURN PORTABLE DRILL
2 OBTAIN AND RETURN POWER NUT RUNNER OR SCREWDRIVER
3 PREPARE TO DRILL, POSITION DRILL AND WITHDRAW (WHE RE N = NUMBER OF BOLTS)
4 PICK UP, POSITION, ASSEMBLE AND TIGHTEN BOLT & NUT (UP TO 5/8") FOR FIT UP OR FINAL ASSEMBLY, PER BO
5 DRILL STEEL 1/2" DEEP (WHERE N = NUMBER OF BOLTS)

LAT 269 1 OBTAIN, SET UP AND RETURN PORTABLE DRILL
2 OBTAIN AND RETURN POWER NUT RUNNER OR SCREWDRIVER
3 PREPARE TO DRILL, POSITION DRILL AND WITHDRAW (WHE RE N = NUMBER OF BOLTS)
4 PICK UP, POSITION, ASSEMBLE AND TIGHTEN BOLT & NUT (UP TO 5/8") FOR FIT UP OR FINAL ASSEMBLY, PER BO
5 DRILL BRASS OR ALUMINUM 1/2" DEEP (WHERE N = NUMBE R OF BOLTS)

LAT 270
1 OBTAIN, SET UP AND RETURN PORTABLE DRILL
2 OBTAIN AND RETURN POWER NUT RUNNER OR SCREWDRIVER
3 PREPARE TO DRILL, POSITION DRILL AND WITHDRAW (WHERE N = NUMBER OF BOLTS)
4 PICK UP, POSITION, ASSEMBLE & TIGHTEN BOLT & NUT (UP TO 5/8") FOR FIT UP OR FINAL ASSEMBLY, PER BOLT
5 DRILL CAST IRON OR BRONZE 1/2" DEEP (WHERE N = NUMBER OF BOLTS)

LAT 271
1 OBTAIN, SET UP AND RETURN PORTABLE DRILL
2 OBTAIN AND RETURN POWER NUT RUNNER OR SCREWDRIVER
3 PREPARE TO DRILL, POSITION DRILL AND WITHDRAW (WHERE N2 = NUMBER OF SCREWS)
4 PICK UP, POSITION, INSTALL AND TIGHTEN SHEET METAL SCREW (UP TO NO. 12), PER SCREW (WHERE N2 = NUMBE
5 DRILL STEEL 1" DEEP (WHERE N1 = DEPTH IN INCHES PER HOLE, AND N2 = NUMBER OF SCREWS)

LAT 272
1 OBTAIN, SET UP AND RETURN PORTABLE DRILL
2 OBTAIN AND RETURN POWER NUT RUNNER OR SCREWDRIVER
3 PREPARE TO DRILL, POSITION DRILL AND WITHDRAW (WHERE N2 = NUMBER OF SCREWS)
4 PICK UP, POSITION, INSTALL AND TIGHTEN SHEET METAL SCREW (UP TO NO. 12), PER SCREW (WHERE N2 = NUMBE
5 DRILL BRASS OR ALUMINUM 1" DEEP (WHERE N1 = DEPTH IN INCHES PER HOLE, AND N2 = NUMBER OF SCREWS)

LAT 273
1 OBTAIN, SET UP AND RETURN PORTABLE DRILL
2 OBTAIN AND RETURN POWER NUT RUNNER OR SCREWDRIVER
3 PREPARE TO DRILL, POSITION DRILL AND WITHDRAW (WHERE N2 = NUMBER OF SCREWS)
4 PICK UP, POSITION, INSTALL AND TIGHTEN SHEET METAL SCREW (UP TO NO. 12), PER SCREW (WHERE N2 = NUMBE
5 DRILL CAST IRON OR BRONZE 1" DEEP (WHERE N1 = DEPTH IN INCHES PER HOLE, & N2 = NUMBER OF SCREWS)

LAT 274
1 OBTAIN, TURN SMALL TO MEDIUM PART AND RETURN TO STAGING AREA
2 MEASURE WITH FOLDING RULE AND MARK ONE POINT MEASURE & MARK 4 POINTS
3 SCRIBE A LINE WITH COMBINATION SQUARE
4 CENTER PUNCH MARK, SIMPLE, FLAT, OR SQUARE PART
5 STUDY WRITTEN INFORMATION ON DRAWING
6 REMEASURE LAYOUT - SIMPLE, FLAT, SQUARE OR ROUND

LAT 275
1 OBTAIN, TURN SMALL TO MEDIUM PART AND RETURN TO STAGING AREA
2 MEAASURE WITH FOLDING RULE AND MARK ONE POINT MEASURE AND MARK 4 POINTS
3 CENTER PUNCH MARK - SIMPLE, ROUND PART
4 STUDY WRITTEN INFORMATION ON DRAWING
5 REMEASURE LAYOUT - SIMPLE, FLAT, SQUARE OR ROUND

LAT 276 1 OBTAIN, TURN SMALL TO MEDIUM PART AND RETURN TO ST AGING AREA
2 MEASURE WITH FOLDING RULE AND MARK ONE POINT MEASU RE AND MARK 8 POINTS
3 SCRIBE TWO LINES WITH COMBINATION SQUARE SQUARE AN D SCRIBE 12 LINES
4 CENTER PUNCH MARK - COMPLEX, FLAT OR SQUARE PART
5 STUDY WRITTEN INFORMATION ON DRAWING STUDY DRAWING S TWICE
6 REMEASURE LAYOUT - COMPLEX, FLAT, SQUARE OR ROUND

LAT 277 1 TAKE REQUIRED MEASURMENTS TO DETERMINE REQUIRED SI ZE OF BOX.(ROUND TRIP TIME IS LEFT OUT- PLANNING D
2 DESIGN AND LAYOUT BRAKE LINES AND CUT LINES TO CON STRUCT PANELS AND LAYOUT HOLES ON PANELS
3 SHEAR MATERIAL FOR 2 L PANELS AND 1 TOP 3 SHEARS P ER PIECE = 3 FIRST AND 6 ADDITIONAL
4 LAYOUT HOLES AND RELIEFS TO BE PUNCHED
5 PUNCH 4 RELIEF HOLES AND 12 FLANGE HOLES FOR 2 L P ANELS = 32 TOTAL FOR PANELS AND PUNCH 48 HOLES IN
6 CUT NOTCH WITH NOTCH MACHINE OR HAND SNIPS
7 BEND 4-90 DEG BRAKES AND 4 STIFFENING BRAKES PER L PANEL AND BEND 2 STIFFENING BRAKES FOR THE TOP PA
8 ASSEMBLE COMPONENTS WITH 4 VICE GRIPS
9 INSTALL 24 SCREWS INTO 2-L PANELS AND 48 SCREWS IN TO TOP PANEL
10 MATERIAL HANDLING

LAT 278 1 TAKE REQUIRED MEASURMENTS TO DETERMINE REQUIRED SI ZE OF BOX (ROUND TRIP TIME LEFT OUT-PLANNING DESK
2 DESIGN AND LAYOUT BRAKE LINES AND CUT LINES TO CON STRUCT PANELS AND LAYOUT RELIEF HOLES.
3 SHEAR MATERIAL FOR 2 L PANELS AND 1 TOP 3 SHEARS P ER PIECE = 3 FIRST AND 6 ADDITIONAL
4 LAYOUT TOP FOR LOCKSEAM FLANGE EDGES
5 FORM PITTSBURG LOCK SEAM 15FT ON EACH L PANEL AND 12 FOOT ON TOP PANEL TOTAL OF 42FT ON 3 PIECES
6 CUT NOTCH WITH NOTCH MACHINE OR HAND SNIPS
7 BEND 4-90 DEG BRAKES AND 4 STIFFENING BRAKES PER L PANEL AND BEND 2 STIFFENING BRAKES FOR THE TOP PA
8 ASSEMBLE COMPONENTS AND HAMMER SEAMS AND STAKE
9 DRILL AND INSTALL 12 BOLTS IN BOTTOM FLANGE FOR AT TACHMENT
10 MATERIAL HANDLING

LAT 279 1 LAYOUT BOX FROM TEMPLET 1 TEMPLET = 1 L PANEL; = 1 2"CUT, 18 LINES 1 TEMPLET = 1 TOP ; = 8"CUT, 1
2 FABRICATE 3FT X 3FT X 3FT METAL BOX WITH BOLTED SE AMS ASSEMBLY
3 FABRICATE 3FT X 3FT X 3FT METAL BOX WITH PITTSBURG LOCK SEAMS ASSEMBLY

LAT 280 1 FABRICATE 14"X 8" DUCT 4FT LONG SECTION 24-26 GAU
GE, USE PITTSBURG LOCK SEAM
2 FABRICATE 14"X 8" RECTANGULAR DUCT 8FT SECTION 24
-26 GUAGE, USE PITTSBURG LOCK SEAM
3 FABRICATE 14" X 20" RECTANGULAR DUCT 4FT LONG 24-2
6 GUAGE, USE PITTSBURG LOCK SEAM
4 FABRICATE 14" X 20" RECTANGULAR DUCT 8FT LONG 24-2
6 GUAGE, USE PITTSBURG LOCK SEAM
5 FABRICATE 32" X 40" RECTANGULAR DUCT 4FT LONG 22 G
UAGE, USE PITTSBURG LOCK SEAM
6 FABRICATE 32" X 40" RECTANGULAR DUCT 8FT LONG 22 G
UAGE, USE PITTSBURG LOCK SEAM
7 FABRICATE 3FT S SLIP USING MACHINE 24 GUAGE
8 FABRICATE 3FT DRIVE LOCK USING MACHINE 24 GUAGE
9 FABRICATE RECTANGULAR DUCT L HANGERS FROM 11 GUAGE
BAR STOCK. MAX OF 4 HANGERS PER SECTION

LAT 281 1 FABRICATE 12"DIA ROUND DUCT SECTION 3FT LONG 24-26
GUAGE, USE SINGLE LOCK SEAM
2 FABRICATE 24"DIA ROUND DUCT 3FT LONG 24-26 GUAGE,
USE SINGLE LOCK SEAM
3 FABRICATE 30"DIA ROUND DUCT 3FT LONG 24-26 GUAGE,
USE SINGLE LOCK SEAM
4 FABRICATE ROUND DUCT L HANGERS FROM 11 GUAGE BAR S
TOCK. MAX OF 1 HANGERS PER SECTION

LAT 282 1 REMOVE 6"DIA ROUND DUCT SECTION (STRAIGHT, ELBOWS,
REDUCERS, OFFSETS, OR JUNCTIONS) LADDER USE INCLU
2 REMOVE 8"DIA ROUND DUCT SECTION (STRAIGHT, ELBOWS,
REDUCERS, OFFSETS, OR JUNCTIONS) LADDER USE INCLU
3 REMOVE 12"DIA ROUND DUCT SECTIONS (STRAIGHT, ELBOW
S, REDUCERS, OFFSETS, OR JUNCTIONS) LADDER USE INC
4 REMOVE 18"DIA ROUND DUCT SECTION (STRAIGHT, ELBOWS
, REDUCERS, OFFSETS, OR JUNCTIONS) LADDER USE INC
5 REMOVE 24"DIA ROUND SECTION (STRAIGHT, ELBOWS, RED
UCERS, OFFSETS, OR JUNCTIONS) LADDER USE INCLUDED
6 REMOVE 30"DIA ROUND DUCT SECTION (STRAIGHT, ELBOWS
, REDUCERS, OFFSETS, OR JUNCTIONS) LADDER USE INC

LAT 283 1 INSTALL 6"DIA ROUND DUCT SECTION (STRAIGHT, ELBOWS
REDUCERS, OFFSETS, OR JUNCTIONS) LADDER USE INCLU
2 INSTALL 8"DIA ROUND DUCT SECTION (STRAIGHT, ELBOWS
REDUCERS, OFFSETS, TEES, OR JUNCTIONS) CONNECT WI
3 INSTALL 12"DIA ROUND DUCT SECTIONS (STRAIGHT, ELBO
WS, REDUCERS, OFFSETS, TEES, OR JUNCTIONS) CONNECT

LAT 284 1 INSTALL 18"DIA ROUND DUCT SECTION (STRAIGHT,ELBOWS
REDUCERS, OFFSETS, TEE, OR JUNCTIONS) CONNECT WIT
2 INSTALL 24"DIA ROUND DUCT SECTION (STRAIGHT,ELBOWS
REDUCERS, OFFSETS, TEES OR JUNCTIONS) CONNECT WIT
3 INSTALL 30"DIA ROUND DUCT SECTIONS (STRAIGHT, ELBO
WS, REDUCERS, OFFSETS, TEES, OR JUNCTIONS) CONNECT

LAT 285 1 INSTALL SECTIONS OF 10"X14" RECTANGULAR DUCT (STRA IGHT, ELBOWS, TEE, REDUCER, ETC) CONNECT WITH DRIV
2 INSTALL SECTIONS OF 14"X20" RECTANGULAR DUCT (STRA IGHT, ELBOW, TEE, REDUCER, ETC.) CONNECT WITH DRIV

LAT 286 1 FABRICATE RECTANGULAR TEE , MAIN OPENING 20"X 14" BRANCH OPENING 14" X 10" . USE PITTSBURG LOCK SEAM
2 FABRICATE RECTANGULAR TEE, MAIN OPENING 36" X20", BRANCH OPENING 20"X18. USE PITTSBURG LOCK SEAMS
3 FABRICATE OFFSET RECTANGULAR REDUCER 20"X14" TO 1 2" X8" X30"LONG, 24 GA. USE PITTSBURG LOCK SEAMS
4 FABRICATE STRAIGHT RECTANGULAR REDUCER, 20"X14"TO 12"X8" X4FT LONG, 24GA. USE PITTSBURG LOCK SEAM.
5 FABRICATE RECTANGULAR CURVED ELBOWS, 20"X14" OPENI NGS, 12"INSIDE RADIUS, 24GA. USE PITTSBURG LOCK SE
6 FABRICATE RECTANGULAR ELBOW WITH TURNING VANES 6"X 12" OPENINGS, 20 GA. USE PITTSBURG LOCK SEAMS
7 FABRICATE RECTANGULAR ELBOW WITH TURNING VANES 24" X 18" OPENINGS, 24 GAUGE. USE PITTSBURG LOCK SEAM.
8 FABRICATE 3FT DRIVE LOCK USING MACHINE
9 FABRICATE 3FT S SLIPS ON MACHINE
10 FABRICATE RECTANGULAR DUCT L HANGERS FROM BAR STOC K. MAX OF 4 HANGERS PER SECTION

LAT 287 1 FABRICATE 14"X 20"X 18"DIA-3FT LONG OFFSET TRANSIT ION, 24 GUAGE, RIVETED AND SOLDER SEAMS
2 FABRICATE 24"X24"X 18"DIA.-3FT LONG, STRAIGHT TRAN SITION 24 GUAGE, LOCK SEAMS, SHEET METAL SCREWS, S
3 FABRICATE 24"X24"X 18"DIA.-3FT LONG STRAIGHT TRANS ITION 24 GUAGE, FASTEN WITH LOCKSEAM AND SHEETMETA
4 FABRICATE 18"DIA. -5 PIECE ROUND ELBOW 90 DEG., 22 GUAGE. FASTEN WITH RIVETS
5 FABRICATE 30"DIA. ROUND ELBOW 5 PIECE, 90 DEG., 2 2 GUAGE. FASTEN WITH RIVETS.
6 FABRICATE 3FT S SLIP USING MACHINE
7 FABRICATE 3FT DRIVE LOCK USING MACHINE
8 FABRICATE RECTANGULAR DUCT L HANGERS FROM BAR STOC K. MAX OF 4 HANGERS PER SECTION

LAT 288 1 FABRICATE 30"TO 18"DIA.4FT LONG...REDUCER USE SING LE LOCK SEAM AND SCREWS
2 FABRICATE ROUND TEE 24" DIA
3 FABRICATE 12"DIA 45 DEGREE TEE
4 FABRICATE 30"TO 18"-4FT LONG....ROUND REDUCER USES SOLDERED LOCK SEAM FOR AIR TIGHTNESS
5 FABRICATE ROUND DUCT HANGER..FROM 11 GUAGE BAR 1 L OOP HANGER PER SECTION

LAT 289 1 INSTALL FLEX CONNECTOR (16"X 13") LADDER USE INC LUDED
2 INSTALL GRILL TO 10"X 24"
3 INSTALL DAMPER QUADRANT IN ELBOW FASTEN WITH SHEET METAL SCREWS

LAT 290 1 INSTALL COVER ANY SIZE TO LADDER USE INCLUDED
2 INSTALL RECTANGULAR END CAP ANY SIZE TO 3FT X 3FT LADDER USE INCLUDED

LAT 291 1 INSTALL 14"X 10" BRANCH IN TRUNK CUT OPENING IN TRUNK AND NOTCH TO REQUIREMENT FASTEN WITH SHEETMETA
2 INSTALL 14"X 20" BRANCH INTO TRUNK LINE CUT OPENING IN TRUNK AND BEND TABS FASTEN WITH SHEETMETAL SC

LAT 292 1 REMOVE ANY SIZE RECTANGULAR (TO 30"X 40")DUCT COMPONENT SECTION , INCLUDES: STRAIGHT, ELBOWS, REDUCE
2 REMOVE ANY SIZE (TO 30"D) ROUND DUCT COMPONENT INCLUDES STRAIGHT SECTIONS, ELBOWS, REDUCERS, OFFSETS
3 REMOVE ANY SIZE RECTANGULAR DUCT END CAP LADDER USE INCLUDED
4 REMOVE ANY SIZE REGISTER, DIFFUSERS, GRILLS LADDER USE INCLUDED

LAT 293 1 FABRICATE ANY SIZE RECTANGULAR DUCT SECTION TO 32" X40"-8FT LONG AND REQUIRED S SLIPS, DRIVE LOCKS, &
2 FABRICATE ANY SIZE RECTANGULAR DUCT REDUCER, ELBOW TEE TO 20"X36"-4FT INCLUDES REQUIRED S SLIPS, DRI
3 FABRICATE TRANSITION TO 24"X24"X 18"DIA. INCLUDES REQUIRED S SLIPS, DRIVE LOCKS, HANGERS
4 FABRICATE ANY SIZE COVER PLATE ..TO 36"X36"

LAT 294 1 FABRICATE ANY SIZE ROUND..... DUCT SECTION TO 30" -8FT LONG AND REQUIRED HANGERS
2 FABRICATE ANY SIZE ROUND TRANSITION OR ELBOW TO 30 "DIA INCLUDES REQUIRED S SLIPS, DRIVE LOCKS, & HAN
3 FABRICATE ANY SIZE ROUND REDUCER TO 30"X 18"DIA AND HANGERS REQUIRED

LAT 295 1 (ES)INSTALL ANY SIZE RECTANGULAR DUCT COMPONENTS STRAIGHT SECTION, ELBOW, TEE, REDUCER, OFFSET, TRAN
2 (ES)INSTALL BRANCH INTO TRUNK, CUT HOLE IN TRUNK, BEND TABS AND FASTEN WITH SHEETMETAL SCREWS (TO 13
3 (ES)INSTALL ANY SIZE COVER OR END CAP (TO 30"X30" COMPONENT)
4 (ES)INSTALL ANY GRILL, DAMPER QUADRANT, FLEXIBLE CONNECTOR (TO 30"X30" COMPONENT)

LAT 296 1 (ES)INSTALL ANY SIZE(TO 12"D)ROUND DUCT COMPONENTS STRAIGHT SECTION, ELBOW, TEE, REDUCER, OFFSET, JU
2 (ES)INSTALL BRANCH INTO TRUNK, CUT HOLE IN TRUNK, BEND TABS AND FASTEN WITH SHEETMETAL SCREWS (TO 13
3 (ES)INSTALL ANY SIZE COVER OR END CAP
4 (ES)INSTALL ANY GRILL, DAMPER QUADRANT, FLEXIBLE CONNECTOR

LAT 297 1 FABRICATE ANY SIZE RECTANGULAR DUCT SECTION TO 32" X40"-8FT LONG AND REQUIRED S SLIPS, DRIVE LOCKS, &
2 FABRICATE ANY SIZE COVER PLATE ..TO 36"X36"

LAT 298 1 FABRICATE ANY SIZE RECTANGULAR DUCT REDUCER, ELBOW TEE TO 20"X36"-4FT INCLUDES REQUIRED S SLIPS, DRI
2 FABRICATE TRANSITION TO 24"X24"X 18"DIA. INCLUDES REQUIRED S SLIPS, DRIVE LOCKS, HANGERS

LAT 299 1 FABRICATE ANY SIZE ROUND..... DUCT SECTION TO 30" -8FT LONG AND REQUIRED HANGERS
2 FABRICATE ANY SIZE ROUND REDUCER TO 30"X 18"DIA AN D HANGERS REQUIRED

LAT 300 1 FABRICATE ANY SIZE ROUND TRANSITION OR ELBOW TO 30 "DIA INCLUDES REQUIRED S SLIPS, DRIVE LOCKS, & HAN

LAT 301 1 (ES)INSTALL ANY SIZE RECTANGULAR DUCT COMPONENTS S TRAIGHT SECTION, ELBOW, TEE, REDUCER, OFFSET, TRAN
2 (ES)INSTALL BRANCH INTO TRUNK, CUT HOLE IN TRUNK, BEND TABS AND FASTEN WITH SHEETMETAL SCREWS (TO 13
3 (ES)INSTALL ANY SIZE COVER OR END CAP (TO 30"X30" COMPONENT)
4 (ES)INSTALL ANY GRILL, DAMPER QUADRANT, FLEXIBLE C ONNECTOR (TO 30"X30" COMPONENT)

LAT 302 1 (ES)INSTALL ANY SIZE(TO 12"D)ROUND DUCT COMPONENTS STRAIGHT SECTION, ELBOW, TEE, REDUCER, OFFSET, JU
2 (ES)INSTALL BRANCH INTO TRUNK, CUT HOLE IN TRUNK, BEND TABS AND FASTEN WITH SHEETMETAL SCREWS (TO 13
3 (ES)INSTALL ANY SIZE COVER OR END CAP
4 (ES)INSTALL ANY GRILL, DAMPER QUADRANT, FLEXIBLE C ONNECTOR

LAT 800 1 UNPACK BOXES OF CEILING PANELS 12 PER BOX
2 UNTIE METAL FRAME BUNDLES .5 FT OF RUNNER PER SQ F T OF CEILING * 20 PCS OF 12FT RUNNER PER BUNDLE
3 UNTIE METAL FRAME BUNDLES * 60 PCS OF 2FT "T" BARS PER BUNDLE * .5FT OF "T" BAR PER SQ FT OF CEILING
4 MEASURE AND MARK CEILING FOR SUPPORT WIRES AND FOR WALL ANGLE SUPPORTS 8 EACH
5 POSITION WALL ANGLES TO WALL
6 INSTALL WALL ANGLE SUPPORTS USING NAILS AVERAGE OF 60FT PER 100 SQ FT OF CEILING
7 LEVEL WALL ANGLE SUPPORTS
8 HAMMER NAILS TO RAFTERS FOR WIRE SUPPORTS
9 TWIST TIE SUPPORT WIRES TO NAILS IN OVERHEAD
10 CUT WALL ANGLES (4 EACH) TO FIT ROOM SIZE *FREQUEN CY=4 TIMES PER
11 CUT MAIN TEES TO FIT *FREQUENCY= 4 PER 100 SQ FT
12 INSTALL SPLICE JOINTS ON MAIN TEES-TAB OR FASTENER
13 POSITION AND INSTALL MAIN TEES TO WALL ANGLE SUPPO RTS
14 INSTALL WIRES TO MAIN TEES AND TWIST TIES
15 CHECK LEVEL OF MAIN TEES TO WALL ANGLE - USE TIGHT LINE
16 LEVEL MAIN TEES TO TIGHT LINE BY ADJUSTING WIRE HA NGERS
17 INSTALL CROSS TEES TO MAIN TEES ON 24" CENTERS, TA B OR FASTENER
18 INSTALL 24" SQUARE PANELS IN CEILING TEE FRAMES (P OSITION IN PLACE)
19 MOVE, CLIMB UP AND DOWN LADDER. *SEE BACK UP SCREE N

LAT 802

1. UNPACK BOXES OF CEILING PANELS 18 PER BOX
2. UNTIE METAL FRAME BUNDLES * 20 PCS OF 12FT RUNNERS PER BUNDLE * .5FT OF RUNNER PER SQ FT OF CEILING
3. UNTIE METAL FRAME BUNDLE * 60 PCS OF 2FT "T" BAR PER BUNDLE * .25FT OF "T" BAR PER SQ FT OF CEILING
4. MEASURE, MARK CEILING FOR SUPPORT WIRES AND WALLS FOR ANGLE SUPPORT RODS
5. POSITION WALL ANGLES TO WALL
6. INSTALL WALL ANGLE SUPPORTS USING NAILS * AVERAGE 60FT OF WALL ANGLE PER 100 SQ FT * OF CEILING
7. LEVEL WALL ANGLE SUPPORTS
8. POSITION AND HAMMER NAILS TO JOINTS FOR WIRE SUPPORTS *FREQ =1/11 PER SQ.FT.
9. BREAK HOLE THROUGH SHEETROCK,PLASTER OR FIBERBOARD CEILING WITH HAMMER (FOR WIRE SUPPORTS) (WCC) *NO
10. TWIST TIE SUPPORT WIRES TO NAILS IN OVERHEAD * FREQ = 1/18
11. SET UP EXTENSION LIGHT WITH TWO LIGHTS AND REMOVE
12. CUT WALL ANGLES TO FIT SIZE OF ROOM
13. INSTALL SPLICE JOINTS ON MAIN TEES-TAB OR FASTENER
14. POSITION AND INSTALL MAIN TEES TO WALL ANGLES
15. INSTALL WIRES TO MAIN TEES - TWIST TIE WIRE
16. CHECK LEVEL OF MAIN TEES TO WALL ANGLES , USE TIGHT LINE *FREQ = 1/50
17. LEVEL MAIN TEES TO TIGHT LINE BY ADJUSTING METAL HANGERS
18. INSTALL CROSS TEES TO MAIN TEES ON 24" CENTERS - TAB OR FASTENER
19. INSTALL 24" X 48" AND 24" X 24" PANELS IN CEILING TEE FRAMES - LIFT AND POSITION PLACE
20. MOVE, CLIMB UP AND DOWN LADDER *SEE BACK-UP INFORMATION

LAT 803

1. UNPACK BOXES OF CEILING PANELS
2. UNTIE METAL FRAME BUNDLES * .25FT OF RUNNERS PER SQ FT OF CEILING * 20 PCS OF 12FT RUNNER PER BUNDLE
3. UNTIE METAL FRAME BUNDLES * .25FT OF "T" BAR PER SQ FT OF CEILING * 60 PCS OF 4FT "T" BAR PER BUNDLE
4. MEASURE, MARK CEILING FOR SUPPORT WIRES AND WALLS FOR ANGLE SUPPORT RODS
5. POSITION WALL ANGLES TO WALL
6. INSTALL WALL ANGLE SUPPORTS * AVERAGE OF 120FT OF WALL ANGLE PER 400 SQ FT * OF CEILING
7. LEVEL WALL ANGLE SUPPORTS
8. POSITION AND HAMMER NAILS TO JOISTS FOR WIRE SUPPORTS
9. BREAK HOLE THROUGH EXISTING CEILING WITH HAMMER FOR WIRE SUPPORTS (WCC)
10. TWIST TIE SUPPORT WIRES TO NAILS IN OVERHEAD
11. INSTALL EXTENSION LIGHT WITH TWO LIGHTS AND REMOVE
12. CUT WALL ANGLES TO FIT SIZE OF ROOM
13. INSTALL SPLICE JOINTS ON MAIN TEES - TAB OR FASTENERS
14. POSITION AND INSTALL MAIN TEES TO WALL ANGLES
15. INSTALL WIRES TO MAIN TEES - TWIST TIE WIRES
16. CHECK LEVEL OF MAIN TEES TO WALL ANGLE - USE TIGHT LINE
17. LEVEL MAIN TEES TO WALL ANGLE BY ADJUSTING TIE WIRES
18. INSTALL CROSS TEES TO MAIN TEES 48" O.C. - TAB OR FASTENER
19. INSTALL 48FT X 48" PANELS IN CEILING TEE FRAMES - LIFT AND POSITION IN PLACE
20. MOVE, CLIMB UP AND DOWN LADDER * SEE BACKUP SCREEN

LAT 804 1 REMOVE OLD AND INSTALL NEW 2FT X 4FT ACOUSTICAL CE
ILING TILE ON SUSPENDED CEILING GRID.
2 LEVEL MAIN TEES BY ADJUSTING METAL HANGERS. 2 ADJU
STMENTS/100 SQ FT
3 MATERIAL HANDLING
4 SWEEP AND CLEAN UP DEBRIS

LAT 805 1 REMOVE OLD AND INSTALL NEW 2FT X 4FT ACOUSTICAL CE
ILING TILE ON SUSPENDED CEILING GRID.
2 REMOVE OLD AND INSTALL NEW BORDER OR ODD CUT ACOUS
TICAL CEILING TILE ON SUSPENDED GRID.
3 LEVEL MAIN TEES BY ADJUSTING METAL HANGERS. 2 ADJU
STMENTS/100 SQ FT
4 SWEEP AND CLEAN UP DEBRIS.
5 MATERIAL HANDLING.

LAT 806 1 REMOVE OLD AND INSTALL NEW 2FT X 4FT ACOUSTICAL CE
ILING TILE ON SUSPENDED GRID.
2 REMOVE OLD AND INSTALL NEW BORDER OR ODD CUT ACOUS
TICAL CEILING TILE ON SUSPENDED GRID.
3 LEVEL MAIN TEES BY ADJUSTING METAL HANGERS. 2 ADJU
STMENTS PER 100 SQ FT
4 SWEEP AND CLEAN UP DEBRIS.
5 MATERIAL HANDLING

LAT 807 1 REMOVE OLD AND INSTALL NEW 2FT X 4FT ACOUSTICAL CE
ILING TILE ON SUSPENDED GRID.
2 REMOVE OLD AND INSTALL NEW BORDER OR ODD CUT ACOUS
TICAL CEILING TILE ON SUSPENDED GRID.
3 LEVEL MAIN TEES BY ADJUSTING METAL HANGERS. 2 ADJU
STMENTS PER 100 SQ FT
4 SWEEP AND CLEAN UP DEBRIS
5 MATERIAL HANDLING.

LAT 808 1 REMOVE OLD AND INSTALL NEW 2FT X 4FT ACOUSTICAL CE
ILING TILE ON SUSPENDED GRID.
2 REMOVE OLD AND INSTALL NEW BORDER OR ODD CUT ACOUS
TICAL CEILING TILE ON SUSPENDED GRID.
3 LEVEL MAIN TEES BY ADJUSTING METAL HANGERS. 2 ADJU
STMENTS PER 100 SQ FT.
4 SWEEP AND CLEAN UP DEBRIS.
5 MATERIAL HANDLING

LAT 809 1 REMOVE OLD AND INSTALL NEW 2FT X 4FT ACOUSTICAL CE
ILING TILE ON SUSPENDED GRID.
2 REMOVE OLD AND INSTALL NEW BORDER OR ODD CUT ACOUS
TICAL CEILING TILE ON SUSPENDED GRID.
3 LEVEL MAIN TEES BY ADJUSTING METAL HANGERS. 2 ADJU
STMENTS PER 100 SQ FT
4 SWEEP AND CLEAN UP DEBRIS.
5 MATERIAL HANDLING.

LAT 90A 1 MATERIAL HANDLING

LAT 98A 1 REMOVE DOWNSPOUTS - CONSISTS OF 2 SECTIONS * SETUP TIME ALLOWED IN GUTTER REMOVAL

LAT 99A 1 REMOVE DOWNSPOUTS - CONSISTS OF 2 SECTIONS_